

Mining with H-bombs

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BUSINESS WEEK

A MCGRAW-HILL PUBLICATION

FIFTY CENTS

OCT. 4, 1958

Buetow and McKnight of 3-M:
They still believe that
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surest way to profits.
(Management)

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ANN ARBOR MICH
2-C



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No one knows the importance of proper timing better than a farmer. Equipment has to be ready *when it's needed!* One breakdown—like a bearing failure—and everybody loses. Lost crop . . . lost money . . . and, for the equipment manufacturer, a lost customer.

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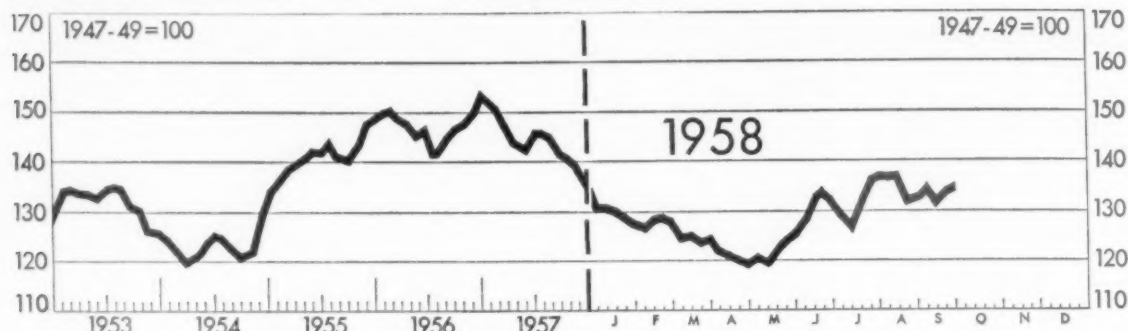
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FIGURES OF THE WEEK



BUSINESS WEEK INDEX (chart)

1946 Average	Year Ago	Month Ago	Week Ago	\$ Latest Week
91.6	141.0	133.2	†134.7	*135.3

PRODUCTION

Steel ingot (thous. of tons).....	1,281	2,115	1,666	†1,816	1,850
Automobiles and trucks.....	62,880	62,167	28,406	†54,547	64,045
Engineering const. awards (Eng. News-Rec. 4-wk. daily av. in thous.).....	\$17,083	\$52,764	\$60,526	\$58,614	\$67,802
Electric power (millions of kilowatt-hours).....	4,238	11,697	12,272	12,240	12,342
Crude oil and condensate (daily av., thous. of bbls.).....	4,751	6,821	6,863	7,087	7,100
Bituminous coal (daily av., thous. of tons).....	1,745	1,678	1,380	1,391	1,404
Paperboard (tons).....	167,269	300,659	307,590	311,174	308,455

TRADE

Carloadings: mfrs., miscellaneous and l.c.l. (daily av., thous. of cars).....	82	67	60	63	64
Carloadings: all others (daily av., thous. of cars).....	53	53	46	43	48
Department store sales index (1947-49 = 100, not seasonally adjusted).....	90	135	134	145	136
Business failures (Dun & Bradstreet, number).....	22	278	246	262	268

PRICES

Spot commodities, daily index (Moody's, Dec. 31, 1931 = 100).....	311.9	394.7	393.0	392.9	391.0
Industrial raw materials, daily index (BLS, 1947-49 = 100).....	††73.2	88.2	85.9	86.0	86.1
Foodstuffs, daily index (BLS, 1947-49 = 100).....	††75.4	81.9	86.8	85.8	84.9
Print cloth (spot and nearby, yd.).....	17.5¢	17.8¢	17.7¢	17.7¢	17.6¢
Finished steel, index (BLS, 1947-49 = 100).....	††76.4	181.5	186.5	186.6	186.6
Scrap steel composite (Iron Age, ton).....	\$20.27	\$40.83	\$42.83	\$43.17	\$43.50
Copper (electrolytic, delivered price, E & MJ, lb.).....	14.045¢	26.910¢	26.388¢	26.500¢	26.500¢
Wheat (No. 2, hard and dark hard winter, Kansas City, bu.).....	\$1.97	\$2.12	\$1.94	\$1.95	\$1.97
Cotton, daily price (middling, 1 in., 14 designated markets, lb.).....	**30.56¢	33.33¢	34.76¢	†34.67¢	34.74¢
Wool tops (Boston, lb.).....	\$1.51	\$2.08	\$1.65	\$1.68	\$1.67

FINANCE

500 stocks composite, price index (S&P's, 1941-43 = 10).....	17.08	42.68	47.90	49.40	49.83
Medium grade corporate bond yield (Baa issues, Moody's).....	3.05%	4.97%	4.78%	4.88%	4.92%
Prime commercial paper, 4 to 6 months, N. Y. City (prevailing rate).....	¾-1%	4%	2½%	2½%	3%

BANKING (Millions of Dollars)

Demand deposits adjusted, reporting member banks.....	††45,820	54,788	55,844	56,800	55,540
Total loans and investments, reporting member banks.....	††71,916	86,558	94,327	94,118	93,380
Commercial and agricultural loans, reporting member banks.....	††9,299	32,408	29,901	30,467	30,244
U. S. gov't guaranteed obligations held, reporting member banks.....	††49,879	24,537	32,902	31,913	31,465
Total federal reserve credit outstanding.....	23,888	25,622	26,417	26,644	26,558

MONTHLY FIGURES OF THE WEEK

	1946 Average	Year Ago	Month Ago	Latest Month
Private expenditures for new construction (in millions).....September.....	\$803	\$3,185	\$3,215	\$3,229
Public expenditures for new construction (in millions).....September.....	\$197	\$1,497	\$1,588	\$1,606
Manufacturers' inventories (seasonally adjusted, in billions).....August.....	\$21.3	\$54.2	\$49.8	\$49.5
Consumer credit outstanding (in millions).....August.....	\$6,704	†\$43,101	\$43,026	\$43,217
Installment credit outstanding (in millions).....August.....	\$3,174	\$33,303	\$33,133	\$33,232

* Preliminary, week ended September 27, 1958.
† Revised.

†† Estimate.
** Ten designated markets, middling ½ in.

‡ Date for 'Latest Week' on each series on request.

THE PICTURES—Cover—Herb Kratochvil; 31 (ft.) U.P.I., (cen.) U. S. Chamber of Commerce, (rt.) Yale University; 32, 33, 34—Grant Compton; 45—John Conen; 52—The Christian Science Monitor; 57—Grant Compton; 62—Eureka Williams Corp.; 67—Hinde & Dauch; 68, 69—National Homes Corp.; 94—W.W.; 97—United Mine Workers Journal; 114, 115—Grant Compton.

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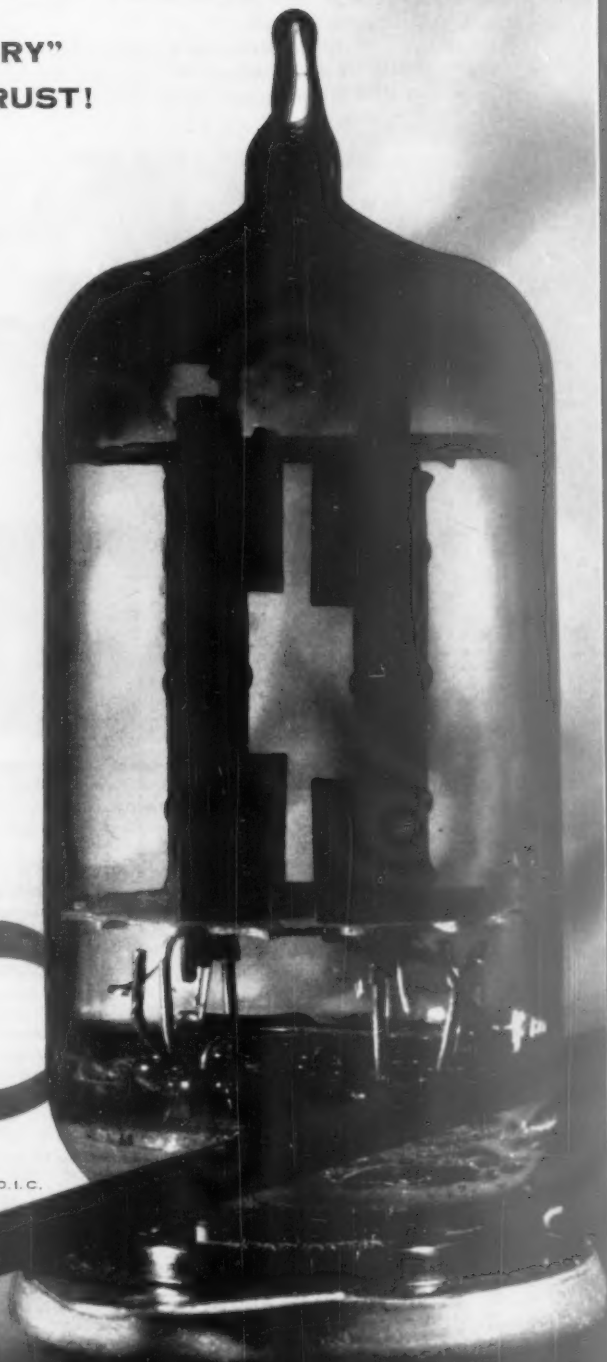
Magnetic tape memory units, each capable of recording 3,000,000 transactions per hour, are part of the electronic data processing machine recently installed at Bankers Trust. Since 1934, our Methods Research people have been devising unique systems to handle the constantly mounting volume of work with speed, accuracy, and economy. Aided by top consultants, we are evolving new banking systems using the most sophisticated equipment. Creative imagination and the newest techniques mean still faster, better service for our customer friends.



BANKERS TRUST COMPANY, NEW YORK

**FORWARD-LOOKING BUSINESS
NEEDS A FORWARD-LOOKING BANK**

MEMBER F.D.I.C.



A famous blind general tells why
it's good business to see the
"ability" in "disability"

Wausau Story

By Major General **MELVIN J. MAAS, USMCR, Ret.**
Chairman, the President's Committee on
Employment of the Physically Handicapped



Chairman of the President's Committee on Employment of the Physically Handicapped, General Maas gets the "feel" of Fairchild's sleek new 40-passenger Propjet liner—the F-27 from physically handicapped Fairchild worker, Ernest Kunz (right).

"As I talked recently to Ernest Kunz, former member of the U.S. Air Force, I found a completely rehabilitated man. Ernie, although still classified as 90% physically disabled, is happily and usefully employed at Fairchild Aircraft Division in Hagerstown, Maryland. I also talked to his wife and children on a family outing and I could just feel their pride in Ernie. I didn't need to see their happy faces.

"It's good business to hire the physically handicapped. Records prove that these workers actually produce at higher rates than unimpaired workers on the same jobs and that they have fewer accidents.

"Fairchild's hiring policy is typical of this enlightened management. It starts with skillful job analysis and placement to fit the handicapped worker's abilities. The in-plant physician and safety engineer see that the handicapped employee can meet the job requirements in a safe manner.

"Working closely with this Fairchild team is the company's workmen's compensation carrier, Employers Mutuals of Wausau. They exemplify the entire insurance industry's helpful and cooperative attitude toward this program.

"I urge all employers to see the 'ability' in 'disability'."



Veteran of three wars, blind Major General "Mel" Maas examines historic plaque at Civil War battleground of Antietam. Former member of Congress from Minnesota, holder of the Silver Star, Legion of Merit and Purple Heart, General Maas works tirelessly for the employment of the physically handicapped.



At Antietam national battleground site General Maas visits with the family of Ernest Kunz. Kunz who lives and works near the historic site typifies to the General how employment of the physically handicapped rehabilitates entire families.

The entire insurance industry and especially we at Employers Mutuals of Wausau, as one of the largest in the field of Workmen's Compensation are 100% for the program of employing the physically handicapped. We have long had an active part in it. We know that physically handicapped individuals when properly placed in jobs are less accident prone than other workers. Above all they are loyal and faithful employees. Getting these physically handicapped to become credits instead of debits is good business for everyone. We are grateful to General Maas for helping us bring this important opportunity to the attention of American business.

Employers Mutuals of Wausau



"Good people to do
business with"

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BUSINESS WEEK • Oct. 4, 1958

READERS REPORT

Municipal Competitor

Dear Sir:

To Attract Industry, Buy It [BW—Aug.9'58,p33] described the purchase of two companies, competitors of ours, by the city of Deming, N. M. To effect the purchase, Deming issued municipal bonds, as to which the interest is tax-free, to the former owners of the two small companies. The city holds in reserve . . . additional bonds which are to be sold if the acquired companies need expansion capital.

The tax-free-interest feature of the bonds should make very interesting the competition for new capital within our industry. . . .

W. C. KINARD

PRESIDENT

TERMITE DRILLS, INC.
PASADENA, CALIF.

Rang a Bell

Dear Sir:

With reference to the article entitled Mr. Ising's Private Army [BW—May31'58,p20], I am still receiving calls, even as of this date, from people who read the article. . . . Your readership certainly seems to extend all over the world. . . .

WALTER ISING

PRESIDENT

LAUBE STEEL CO.
CHICAGO, ILL.

Sears Profit Sharing Plan

Dear Sir:

In the article The New Fringe: Savings Plans [BW—Sep.6'58,p54], the statement is made that "the earliest of the plans date back only to 1952."

When I went to work for Sears, Roebuck . . . they then had a program in which employees were permitted to save a proportion of each paycheck on a dollar for dollar matching basis by the company. . . .

JAMES M. NELSON

VICE-PRESIDENT

THE RALPH H. JONES CO.,
ADVERTISING
CINCINNATI, OHIO

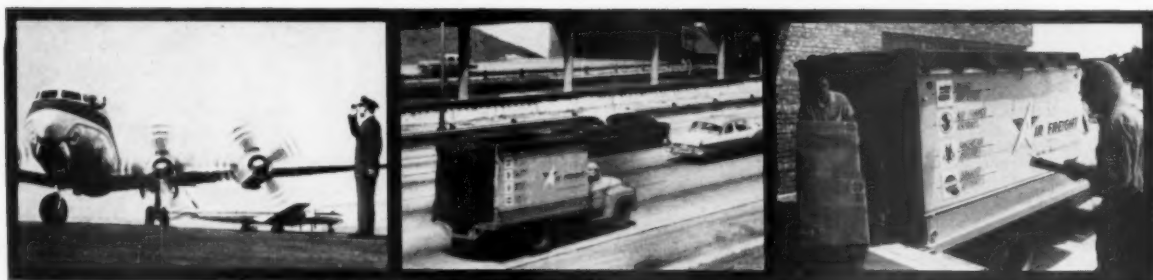
• The Sears, Roebuck plan is a savings and profit-sharing pension plan. Employee contributions are based on a percentage of salary, while company contributions are based on annual profits. The thrift plans described in our article are set up so company contributions are based on employee contributions, not on annual profits.



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Another example of



CHEMICAL
PROGRESS



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New G-E Nitrile Silicone Rubber retains its physical properties at operating temperatures down to -100°F . and above 500°F . It shows excellent resistance to an extremely wide range of test fluids (among them: JP-4 jet fuel, MIL-L-7808 diester fluid, Type A transmission fluid). Chief applications seen for

DEVELOPS NEW OIL-RESISTANT NITRILE SILICONE RUBBER

G-E Nitrile Silicone Rubber are as O rings, seals, gaskets, hose and hose couplings, fuel cells and sealing compounds. The new material will be available in commercial quantities about the end of the year and is expected to cost less than the heavily fluorinated oil-resistant elastomers now available to the aircraft and automotive industries.

G.E.'s breakthrough on nitrile silicone rubber opens up a promising new area of silicone chemistry. Look for further announcements from General Electric—where chemical research works to find new materials for American industry.

For further information, write Dept. SPD, CHEMICAL AND METALLURGICAL DIVISION, General Electric Company, Watford, New York.

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GENERAL  ELECTRIC

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46 Verifax Copiers speed Home Office paper work



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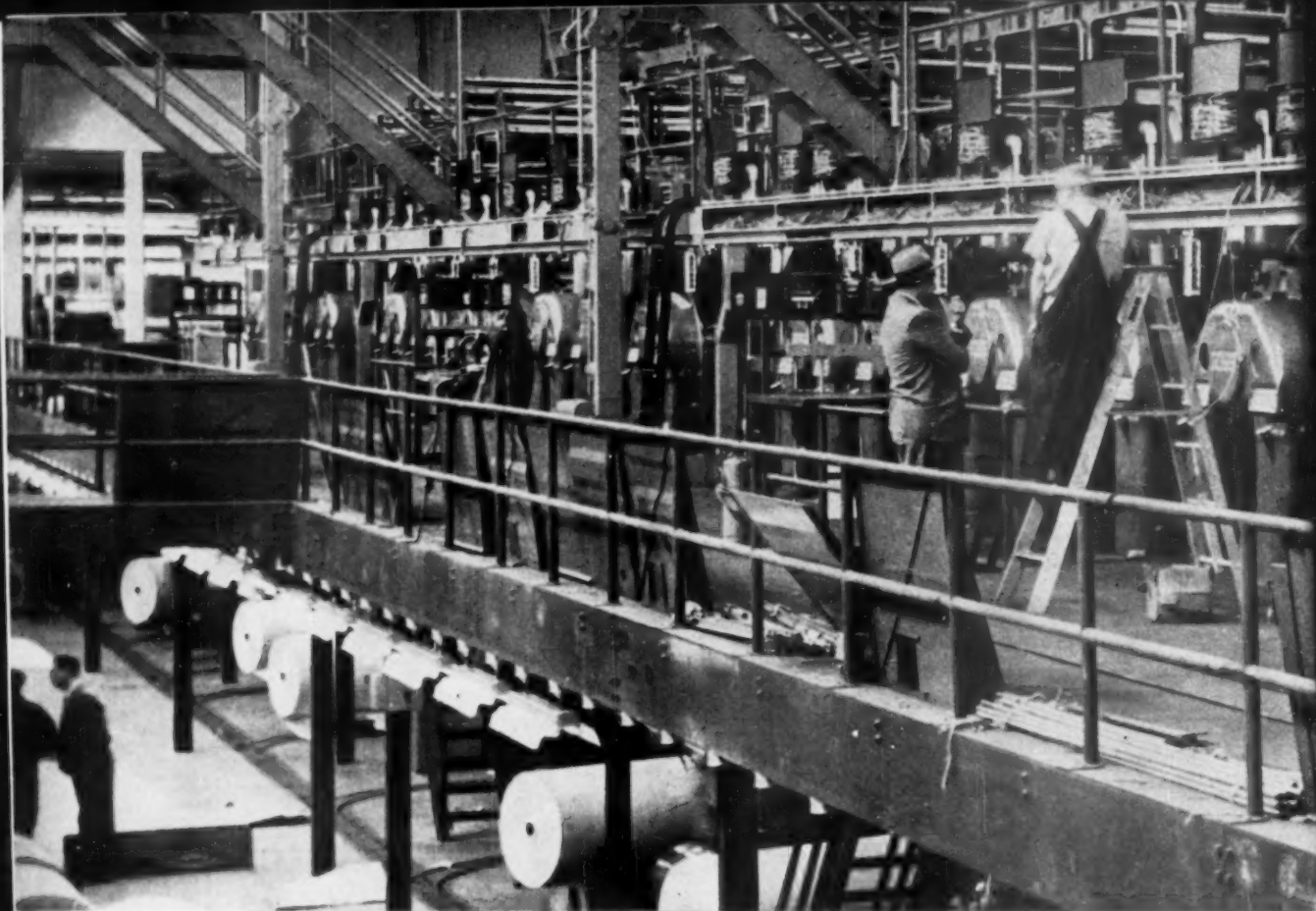
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Position _____
Company _____
Street _____
City _____
State _____



21-10

Kodak
TRADE MARK



The news behind the news—is that Anaconda's Densheath 900 feeds the power to these huge Goss presses at the Chicago Sun-Times' new Fort Dearborn plant. Densheath 900's special heat-resistant insulation enables current to be car-

AT THE CHICAGO SUN-TIMES

An extra margin of safety and increased are provided by Anaconda's new



Electrician laces in Anaconda Densheath 900 for a 50-hp press-drive motor. In addition to three master panels, each press has its own control panel.

Nothing "spoils" as fast as news. Thus, in a newspaper operation, there's no time for machine breakdowns, costly delays. The news *must* get out!

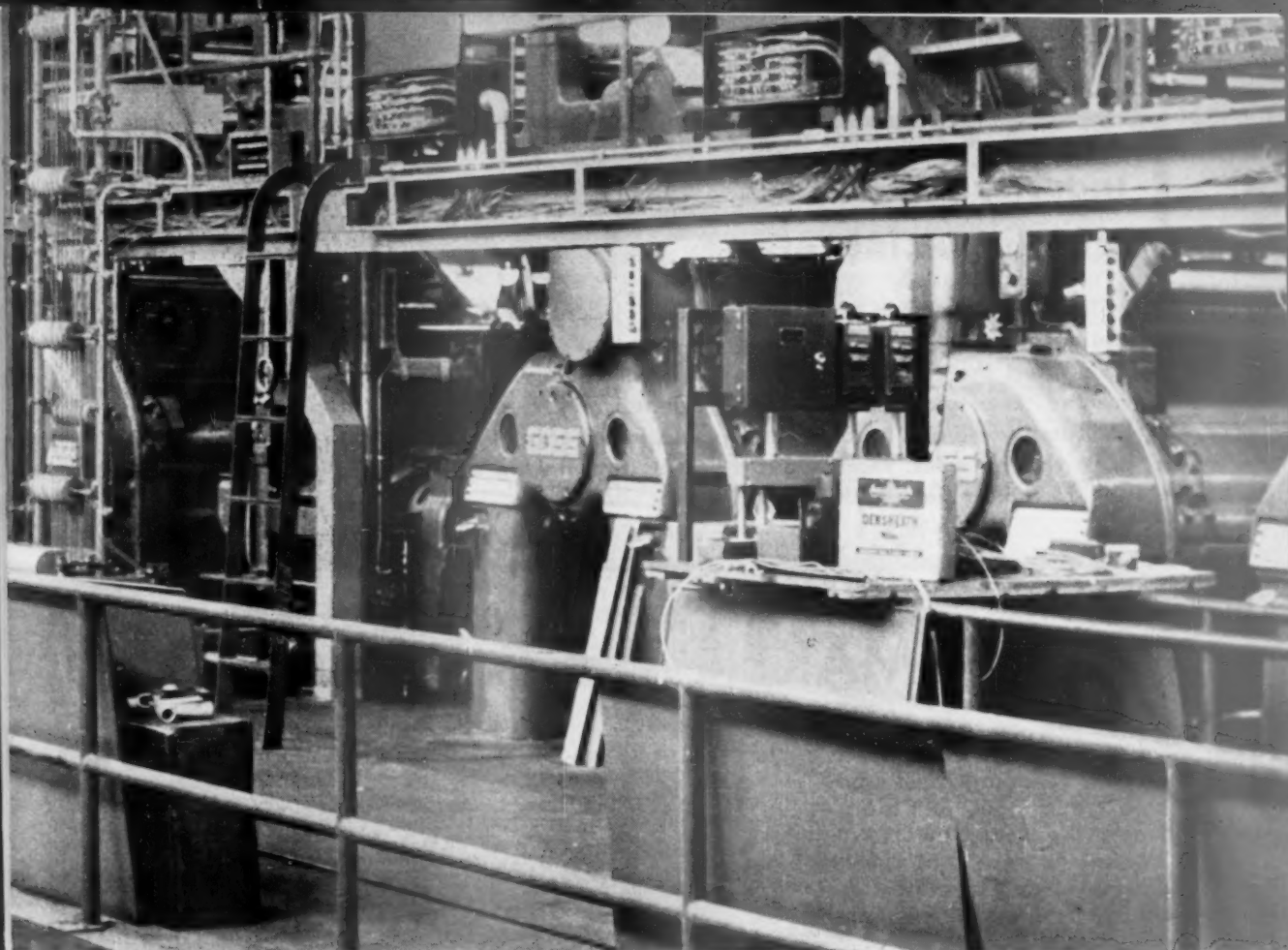
To see that it does—at the Chicago Sun-Times—Anaconda's Densheath 900 is on the job powering 30 giant Goss presses, plus teletypes, intercom systems, office equipment.

In *your* business, too, power failures can mean *serious* losses. Densheath 900 has the "built-in" *extra performance* your important circuits require.

Tough, flexible Densheath 900, then, deserves attention. This top-quality industrial wire is sound insurance against power failure. Here's why:

- 1 LONG LIFE.** Consistently superior performance throughout the years under the severest operating conditions.
- 2 HIGH HEAT RESISTANCE.** Can safely carry higher currents under exposure to higher ambient temperatures.
- 3 CHEMICALLY STABLE.** Retains its electrical and physical characteristics despite exposure to cutting compounds, lubricants, most acids and alkalis.
- 4 MOISTURE RESISTANCE.** The presence of moisture does not affect the satisfactory performances of Densheath 900.
- 5 EASY TO INSTALL.** Flexible, easily formed, resists tearing, abrasion and stretching, strips easily.
- 6 LESS "DRAG."** Coated with exclusive new "slipper" coat which offers less drag, greater resistance to scraping.

If yours is a plant now going to higher ambients, or higher temperature operations in corrosive atmospheres, Densheath 900 will be of particular interest. It provides an extra margin of safety for those "hot spots" which



ried more safely . . . is designed for exposure to higher temperatures than ordinary PVC thermoplastic materials. Architects for the new building were Naess and Murphy, Chicago. Electrical Contractor: White City Electric Co., Chicago.

protection against power failures industrial wire – Densheath 900!

are always occurring . . . assures superior performance from your wiring. For contractors and distributors, Densheath 900 offers another advantage: it eliminates duplicate stocks, since the one wire can be used for building construction, appliance and machine tool applications. See the Man from Anaconda or your Anaconda Distributor about Densheath 900. Anaconda Wire & Cable Co., 25 Broadway, New York 4, N. Y.

28304

RATINGS

The exceptional heat, chemical and moisture resistance of Densheath 900 enables it to satisfy the following:

- U/L requirements for type TW
- ASTM D 734 Polyvinyl Insulating Compound
- 90C Switchboard, Appliance and Machine Tool Wiring
- National Machine Tool Builders Association Specifications

SEE THE
MAN FROM

ANACONDA®

FOR **DENSHEATH 900**



DENSHEATH 900

Densheath 900, the 90C industrial wire, is the result of more than 20 years of Anaconda's research and development in the field of thermoplastic wire and cable. Its specially heat-resistant insulation handles current more safely . . . it is designed for exposure to higher temperatures than ordinary PVC thermoplastic materials.

Underwriters' Laboratories Inc. Labeling: Type TW, Oil Resistant 60 C. Sizes 14 Awg through 4/0-Awg also labeled as Appliance Wiring Material for use at temperatures not exceeding 90C, or not exceeding 60C where exposed to oil.

Industry's chemicals:

WHAT'S MAKING NEWS?

There's a new mood of self-examination evident in American business and industry today. Every element that can possibly affect the cost-price squeeze comes in for its share of scrutiny. Even plant safety is being carefully re-examined. Reducing waste and hazards earns just as important a dollar as increasing sales. Many Dow chemicals are making significant contributions in this area of safety and savings.

NUMBER

3

You may wish to check certain items in this advertisement and forward to those concerned in your company.

Route to:

MOTOR MAKER K.O.'S FIRE HAZARD

If the plant fire chief's job is less than "4-alarm" these days, some credit goes to Chlorothene®, the new Dow metal-cleaning solvent that cleans with top efficiency yet has low toxicity, no flash or fire point!

Production cleaning of metal may seem like a pretty pedestrian operation. But in refrigerators, a clean motor stator can mean the difference between effective cooling and spoiled foods—and damage to the manufacturer's reputation. One of America's largest manufacturers of electrical equipment discovered that cleaning of its hermetic stators had to be nothing short of perfect. Once the stator was placed in the sealed unit, it was too late to clean it! The job was done.

For years the manufacturer put up with old stand-by cleaning solvents because, all things considered, there was nothing better . . . and they did clean. Finally, the penalty of flammability became too great. They tried emulsions and detergents; but the problem solved itself in one area, only to break out in another.

What to do? Process engineers studying the problem contacted Dow technical men known to be researching new solvents. Fortunately, Dow had just developed a revolutionary new cleaning solvent known as Chlorothene (1,1,1-trichloroethane, inhibited) industry's first all-purpose low-toxicity industrial solvent with no flash or fire point. Dow technical personnel supplied property information and assisted the process engineers in establishing optimum cleaning procedures.

Applied to the stator cleaning problem Chlorothene was the complete answer. After Chlorothene had been in use for five weeks the engineers reported safer cleaning, of course . . . whistle-clean motor parts without affecting insulating resins . . . and many other important money-saving extras. Hazard of plant fires had been cut to the vanishing point . . . a point that is also a consideration in fire insurance rates.

Another thing—there's less product handling because cleaning is swift and certain, with fewer rejects and reruns. Solvent loss was cut, too . . . because Chlorothene can be recycled and reclaimed with practically no solvent evaporation.

Chlorothene has proved itself an ideal solvent for the motor maker's problem (and for many others, too). In clean-

News of Other Dow Chemicals



SEPARAN® NP10 . . . Extraordinary flocculant recovers solids that are in suspension. Pulp and paper and mining industries know it well. Settles waste recovery problems, too.



POLYOLS . . . Dow produces the "World's Widest Line of Polyols" . . . industrial glycols, amines, glycerine, many interesting newcomers. Write, on your letterhead, for folder.

(Advertisement)

ing power it is the peer of any of the old-line cleaners. At the same time it has no flash or fire point by standard testing methods, which, of course, means that Chlorothene won't burn under most ordinary working conditions. And, for good measure, there is minimal toxicity. For example, where maximum allowable concentration of vapor of old stand-by solvents is as low as 25 parts per million, that of Chlorothene is a whopping 500 ppm!

LIFE INSURANCE

for fresh fruit

You may not read about post-harvest decay of fresh fruits as a major crop disaster, but over the years it has taken a heavy toll of sales and profits from growers, packers and re-

tailers alike. It needn't any more!

A member of the strong defensive team of Dow industrial germicides and fungicides (known as Dowicide®) is fighting bacteria and fungi on harvested fruits and is cutting decay losses as much as two-thirds. In fact, one packer reduced decay loss in his oranges by 85% with Dowicide A!

Fruit-saving treatment with Dowicide A was developed and tested with the nation's leading growers and packers. And, according to one Florida packer, "Treatment with Dowicide A has proven an easy, inexpensive way to lengthen the life of fresh fruits in packing, shipping and storage, and to insure our sales and profits. It even extends our market to foreign ports."

Fourteen Dowicide formulations are helping hundreds of industries fight

the problem of bacteria and fungi. Treatment with one or more of the Dowicide products means a longer, brighter life for the products involved—from fresh fruits to lumber, paper, paint, petroleum, textiles, packaging. Dow maintains complete laboratory facilities for the solution of new problems as they arise, and for the development of new products to meet specific needs.

PHARMACEUTICAL PROBLEMS

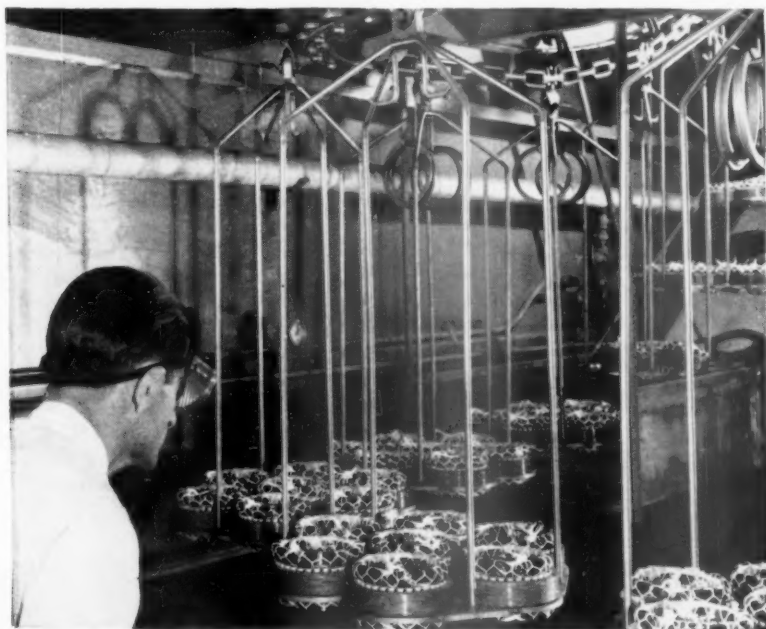
—Dow can help

For years the well-known Dow Diamond has stood for the highest purity and quality in fine chemicals. As a leading producer of acetylsalicylic acid for makers of aspirin and of bromides and brominated products essential in many of today's "wonder drugs", Dow has solved headaches for many of our country's most important pharmaceutical manufacturers.

Latest word from Dow concerns what is termed a multipurpose plant for pharmaceutical intermediates and other fine chemical developments. The idea is simple: For those products to which Dow can make a contribution because of basic raw materials, accumulated technology, and research specialists, these facilities are available to supply semicommercial quantities of sales quality materials until full-scale production facilities are needed. Thus Dow is geared to work hand in hand with the customer through the critical period of product development and market evaluation.

★ ★ ★ ★

Detailed information is available from Dow on any of the forward-looking chemicals reported on here. Manufacturers interested in protecting today's profits . . . and in creating new ones . . . are invited to write: THE DOW CHEMICAL COMPANY, Midland, Michigan, Chemicals Sales Department 852B-1.



Motor parts coming down line after cleaning with safer Chlorothene.



METHOCEL® . . . Versatile Methocel is a thickener, emulsifier, stabilizer, mechanical foamer, moisture retainer. Indispensable in foods, paints, textiles. Write, on your letterhead, for booklet.



CAUSTIC SODA . . . New, complete, reference handbook on caustic packed with graphs, charts, tables, information on handling and storage—everything you want to know about NaOH.

DOW CHEMICALS BASIC TO INDUSTRY

Glycols, Glycol Ethers • Amines
and Alkylene Oxides • Benzene
Derivatives • Inorganic Chlorides •
Alkalies and Halogens • Solvents •
Germicides • Fungicides • Herbicides •
Fumigants
Hundreds of other Chemicals
Plastics • Magnesium

YOU CAN DEPEND ON

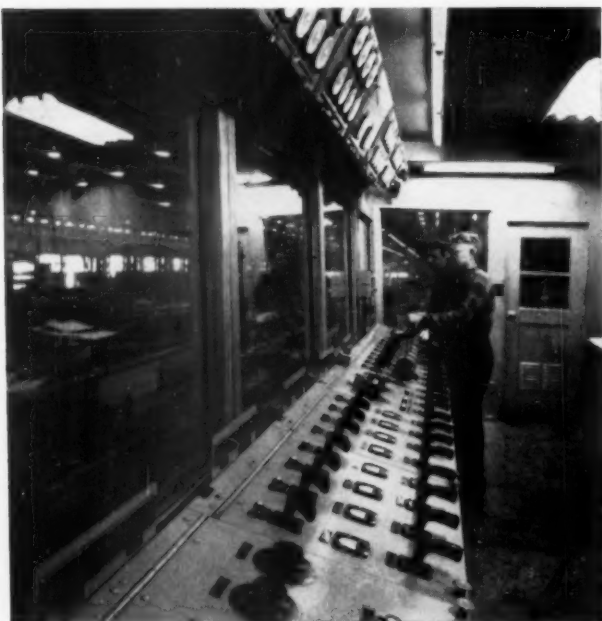


Republic Steel's "Bar Mill of Tomorrow"

MEANS BETTER STEEL BAR SERVICE TODAY



WHITE-HOT STEEL BAR PRODUCTS are shown being run off into a cooling bed at Republic's "Bar Mill of Tomorrow" at Chicago, Illinois. Steel billets, three and four inches square, are reduced into high quality bar products at the rate of 3,000 feet per minute. Production off the mill includes torsion bar quality steels, coil spring and spring steel bar quality, cold heading and cold extrusion quality, as well as regular merchant quality. A definite advantage to users of torsion bar quality material is the fact that bars coming off the new mill will require less centerless grinding to achieve a nearly perfect round.

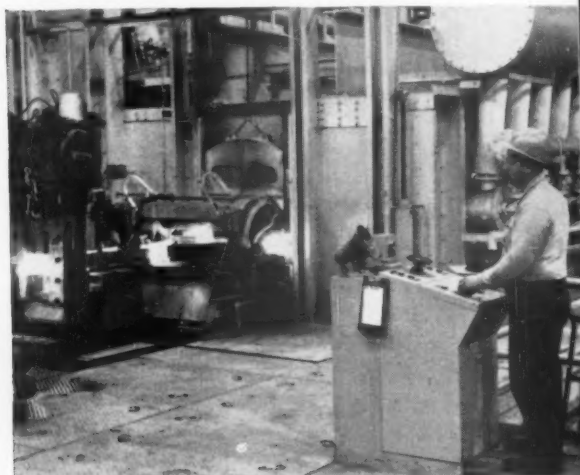


FROM THIS AIR-CONDITIONED MASTER CONTROL ROOM, speeds of the 16 roll stands in the quarter-mile long mill are synchronized and controlled so that three- and four-inch square steel billets can be reduced in size and shape into high quality alloy and carbon steel bar products.

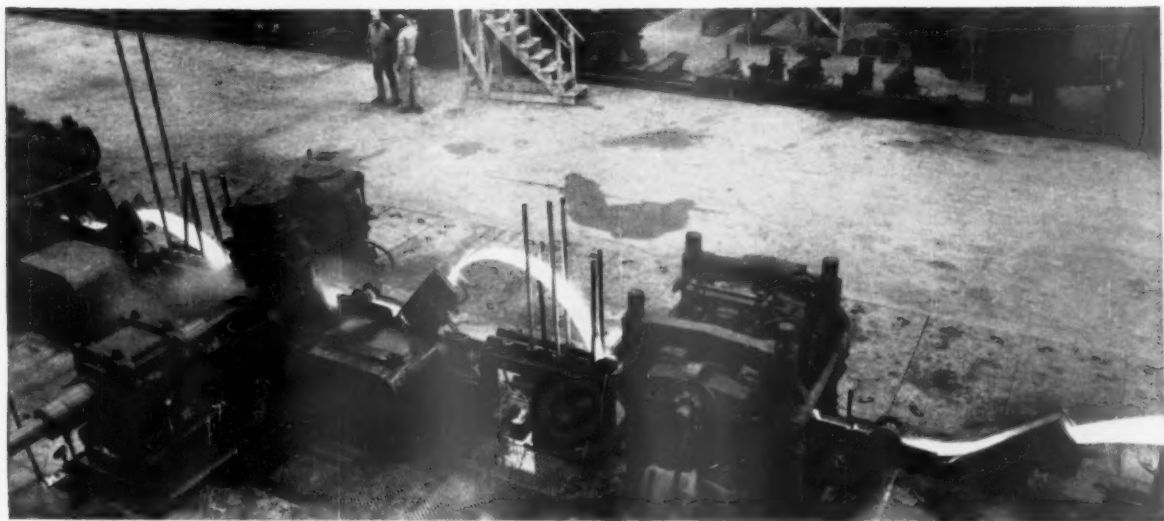
REPUBLIC STRENGTHENS POSITION AS LEADING PRODUCER OF BAR MILL PRODUCTS. The recent opening of the new 11-inch Bar Mill at Chicago, Illinois, together with other strategically located Republic bar mill facilities, will provide the most complete range of sizes and materials—carbon, alloy, stainless, and titanium—in $\frac{3}{8}$ " rd. to 10" rd. and equivalent footweight sections.

Republic is the nation's number one producer of alloy and carbon steel bars. Likewise, Republic leads in the production of special quality steels.

The new Republic facility incorporates all of the most advanced design features of existing bar mills—plus the addition of some unique features to help Republic meet today's exacting require-



A FOUR-INCH SQUARE BILLET is about to start its run through the new 11-inch bar mill. After being uniformly heated in a furnace, the billet passes through a series of 16 rolling mill stands and is reduced to proper size. The mill is capable of producing $\frac{3}{8}$ " to 1 $\frac{1}{4}$ " inch rounds and equivalent sizes of squares, hexagons, special sections, concrete reinforcing bars, and one-inch to four-inch wide flats.



VERTICAL LOOPING OF STEEL, a unique principle in American bar mill design, is shown above. As the billet passes through each set of rolls, its size is reduced and its length increased. Note vertical and horizontal rolling stands. On other mills, the steel is looped off to the side or below the mill. On Republic's "Mill of Tomorrow", the steel is looped vertically above the mill while stand speeds are synchronized.

ments for high quality. The new mill is producing high quality alloy and carbon steel bar products in heavier coil weights, and is capable of producing closer than standard tolerances.

IN THICK TIMES OR THIN, REPUBLIC STICKS BY ITS BAR CUSTOMERS. Norman W. Foy, Republic's Vice President in Charge of Sales, puts it this way. "Fair treatment to our customers has been Republic Steel's firm policy over the years. It has been our aim to build up our capacity so that we could provide more steel tonnage for existing customers as well as take on additional users. We have always considered our assurances of steel to customers to be real assurances, for we had to have the capacity to back up the orders.

This is the reason for our bar mill expansion program. When you place your orders with Republic, you know that in thick times or thin, we have the capacity to fill those orders or we don't take them."

"BAR MILL OF TOMORROW" IS REPUBLIC'S \$18,000,000 INVESTMENT IN THE BELIEF THAT—THE FUTURE IS GREAT IN A GROWING AMERICA.

The new mill was erected as part of Republic's \$200,000,000 expansion program being completed this year. This investment is proof of Republic's faith in the future. Faith that America's economic growth potential is stronger now than ever before. Faith that "The Future is Great in a Growing America."



REPUBLIC'S FAMED 3-DIMENSION METALLURGICAL SERVICE TEAMS—field, mill, and laboratory—are always available to help your personnel apply Republic's high quality bar products to your product. Carbon, alloy, stainless, and titanium metallurgists will assist in the selection, application, and processing of the right bar product for the job. There is no obligation. Mail the coupon for full facts.

REPUBLIC STEEL



*World's Widest Range
of Standard Steels and
Steel Products*

REPUBLIC STEEL CORPORATION
DEPT. BW-6404
1441 REPUBLIC BUILDING • CLEVELAND 1, OHIO

Have a metallurgist call:
☐ Carbon ☐ Alloy ☐ Stainless ☐ Titanium
 Have a salesman call:
☐ Carbon ☐ Alloy ☐ Stainless ☐ Titanium

Name _____ Title _____
 Company _____
 Address _____
 City _____ Zone _____ State _____

BASIC PRODUCTS CORPORATION

reports on growth



HIGHLIGHTS FROM THE ANNUAL REPORT

	(in thousands)
Sales.....	\$35,169
Net Earnings.....	2,316
Working Capital.....	12,118
Total Assets.....	26,916

Per Share

Net Earnings.....	\$ 2.04
Common Dividends.....	1.20
Stockholders' Equity.....	15.00

Current Ratio: 4.7 to 1

Common stock listed on New York Stock Exchange

We will be pleased to send you a copy of our Annual Report for 1958.

Please address:
Basic Products Corporation
Department 112
P. O. Box 712
Milwaukee 1, Wisconsin

Research, expansion, diversification, market development and an unbroken record of dividend payments for twenty-three consecutive years form the foundation of Basic Products' confidence that it will maintain stability and steady growth.

BASIC PRODUCTS CORPORATION

MILWAUKEE 1, WISCONSIN



**FROEDTERT MALT
CORPORATION**
Milwaukee, Wisconsin



**BAUER-SCHWEITZER
MALTING CO., INC.**
San Francisco, California



SOLA ELECTRIC CO.
Chicago, Illinois

Why all the activity in New England Electric?



**TAKING STOCK
OF INDUSTRY ...
NEW ENGLAND SHOWS
DYNAMIC
CAPITAL GAIN!**

Today New Englanders make more money, spend more money, save more money than any New Englanders ever did before in history. And well they should ... what with the establishment of over 45,000 new firms in New England since the end of World War II.

Plastics, electronics, nucleonics are welcome newcomers to this traditionally vigorous area — now the nation's top retail market for goods produced.

All this means good living and profit to New Englanders — and profit, too, for farsighted folks in other sections of the country who have investments in New England business and industry.



New England's Largest

A note to our Area Development Department, Room A, 441 Stuart Street, Boston 16, will bring you prompt information about good New England plant locations.

N E W E N G L A N D E L E C T R I C S Y S T E M

HOW **HERCULES** HELPS...



PROTECT THE "FROG POND"—This landmark on Boston's historic Common must be kept clean and fresh-looking all year round. "Ramuc" Enamel, a Parlon® (chlorinated rubber) based paint designed for constant submersion in water does the job efficiently. Manufactured by Inertol Co., Inc., Newark, N. J., the paint was last applied in May, 1957. The pool is now well along in its second year, with no repainting indicated.



IMPROVE EXISTING PRODUCTS—The cap and valve of this garden hose spray gun are molded with Pro-fax®, Hercules' exciting new polypropylene. Tough, durable, lightweight, and low in cost, Pro-fax is now providing many new and improved products in fields previously served by metal, wood, or glass.



PRESERVE THE PRINTED WORD—Billboard posters are now being protected with a coating based on EHEC, Hercules® ethyl hydroxyethyl cellulose. EHEC lacquers won't bleed the inks and yet protect the posters against extremes of weather. Its solvency in low-solvent solutions makes EHEC ideal as a film-former in numerous formulations



Q58-7

HERCULES POWDER COMPANY

INCORPORATED
900 Market Street, Wilmington 99, Delaware

CHEMICAL MATERIALS FOR INDUSTRY

HERCULES

BUSINESS OUTLOOK

BUSINESS WEEK

OCT. 4, 1958



Recovery, whatever its handicaps, moves right along (page 28).

Nearly all the indicators are making steady progress. Many now are ahead of this time last year (even though that is due, in some cases, about as much to weakness as it is to strength today).

And, mind you, autos aren't yet even beginning to pull their weight.

—●—

Steel output in 1958's final quarter is likely to exceed 26-million tons. That would be about 4-million tons higher than the third quarter and more than a million better than a year ago.

Moreover, each month this quarter will be bigger than the one before—with December quite possibly the best in a year and a half.

Operations in the steel industry, as October started, were very close to 70% of capacity. That, of course, isn't a very high rate, but it's up 20 points from the year's low—and advancing steadily.

Even 70% becomes impressive when you recognize that orders from the auto companies still are at a surprisingly low level.

In addition, inventory building hasn't yet been any factor at all.

—●—

Strikes and the habitual new-model production-line difficulties have continued to hold back the auto producers.

Then, too, there is Detroit's determination not to outpace itself. This minimizes any real push new cars might be giving the economy.

But that push is coming. Chevrolet plans "full" volume before the month is out, and none of the others proposes to be left behind.

September was a doleful month for the auto makers. Most of the new cars were in production by or before midmonth. Yet none but Rambler has got much beyond the stuttering beginning.

Output last month was a scant 150,000. That's the smallest since postwar production got rolling in the summer of 1946.

It brought third-quarter production only to 650,000—just about half what it was in the same quarter last year.

Fourth-quarter auto output has to reach almost 1½-million to bring the year's total up to 4.4-million. At that level it would be the poorest since Korea-pinch 1952 and 1.7-million below 1957.

This sets the stage for big things, many old timers insist.

The initial response to 1959 models, according to dealers, is beyond all expectations. Water that down, and you still can be optimistic.

—●—

Construction's gains over a year ago are widening steadily—and contract awards are tracing a most hopeful forecast for the months ahead.

McGraw-Hill's Engineering News-Record lists a 23% gain in lettings for the latest week and also for the last four weeks. And the F. W. Dodge Corp. total for August was up 23% with all major classifications except manufacturing structures showing healthy advances.

BUSINESS OUTLOOK (Continued)

BUSINESS WEEK
OCT. 4, 1958

Dodge's vice-chairman, Thomas S. Holden, notes that the last four months have been the highest ever reported.

Crude oil production, which has been running about 3% better than a year ago in recent weeks, now is turning down.

This, however, is not too serious, because **demand isn't falling**.

In fact, cuts in crude production and in refinery runs are designed to avoid trouble—to **prevent a further buildup in gasoline stocks** which already are a little heavy (BW—Aug.23'58,p12).

Home heating will get more expensive if you burn oil.

That's the inevitable footnote on the effort to hold down the surplus of gasoline. Light burning oils already are in fairly tight supply, particularly on the Eastern seaboard.

Demand for oil will be better than 4% ahead of last year for the fourth quarter, according to the Bureau of Mines. Then, with this month's cut-back in Texas production allowables, it seems pretty certain oilmen will come up to the start of 1959 in a strong position.

There's just one other thing to watch: That's the refining rate.

The new import quotas after next June will be based on refinery runs now—for operators who haven't been importers in the past as well as the regular importers. They're all out to get the biggest quotas they can, so they'll scramble for the diminished supply of crude.

This may build "gas" stocks unduly, but it will buck up crude prices.

—●—

Coal still hasn't had much of a recovery but its best customers, the electric utilities, are showing betterment.

Power output, at midsummer, had lost almost all its gain over last year. Now, however, it has pulled up to a pretty healthy plus—and the heavily industrialized Great Lakes area in particular is doing better.

—●—

One of the very favorable current showings is being made by paper-board—which reflects preparation for a record Christmas.

Output has been rising since July, and September was the best month the industry has ever had.

—●—

Business failures, more numerous all this year until August, have taken a turn for the better. In the latest four-week period, they have averaged 4% under the same 1957 interval.

—●—

Department store sales for many weeks now have been giving a pretty convincing forecast of the **biggest holiday season ever**.

Though sales losses piled up in the first half of the year haven't quite been eliminated, dollar volume of big stores has been 2% to 3% ahead almost every week since midyear; the latest four weeks were up 2½%.

Test track for new research in nuclear fusion power

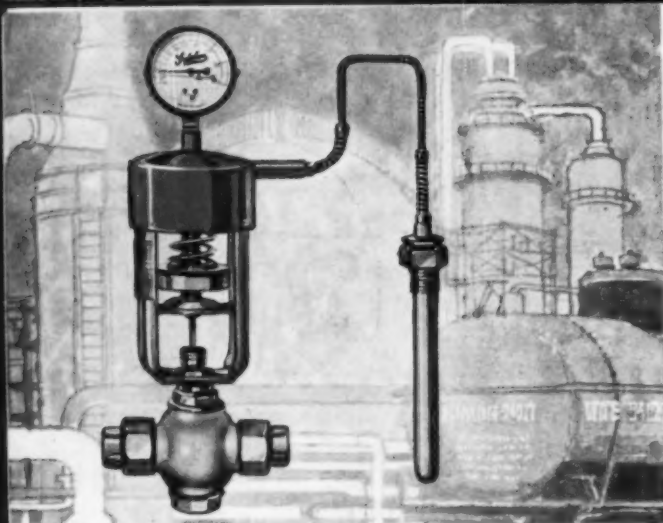


GENEVA, SWITZERLAND. A model of this unique "test track" for nuclear fusion research is fascinating scientists here. Called the "C Stellarator," it promises to be a significant step toward the generation of useful power from controlled thermonuclear reactions. Inside the racetrack-shaped tube you see here, isotopes of hydrogen gas (derived from the waters of the world) will be confined by massive magnetic forces and heated to millions

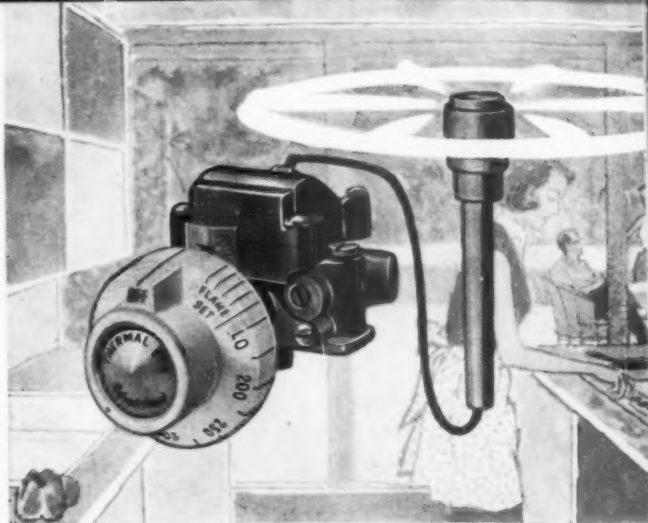
of degrees . . . to obtain knowledge for initiating and controlling nuclear fusion reactions for useful electrical power. Princeton University scientists developed this concept . . . and working with the Atomic Energy Commission, chose Allis-Chalmers and the Radio Corporation of America to engineer and build the complex equipment required for the full-scale Stellarator facility. Allis-Chalmers, Milwaukee 1, Wisconsin.

ALLIS-CHALMERS *POWER* FOR A GROWING WORLD

Construction Machinery Division • Engine Material Handling Division • Farm Equipment Division • General Products Division • Industrial Equipment Division • Nuclear Power Division • Power Equipment Division • Allis Chalmers International



Simple, low-cost temperature regulator—used by food, chemical and other processing industries where dependable accuracy is essential for product quality and low-cost production. New features include stainless steel frame, extra-powerful thermal unit, super-finished valve stem and no-lubrication packing. Many types and sizes...designed for the future, but available now.
FULTON SYLPHON DIVISION, KNOXVILLE 1, TENN.

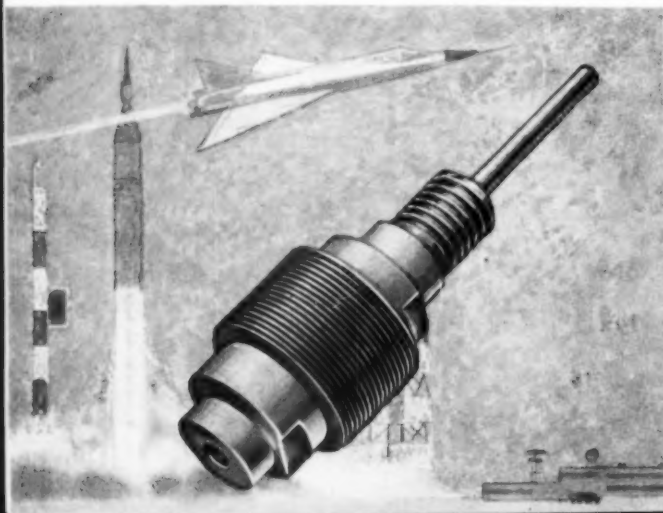


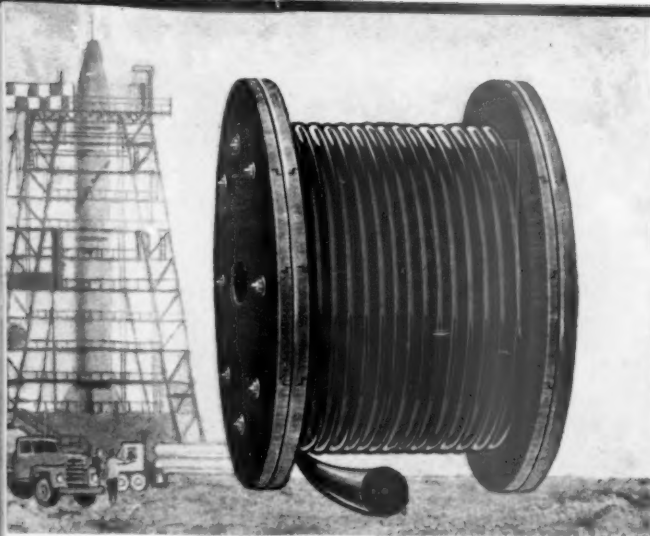
New brain for "The Burner with a Brain"—Robertshaw, originator of this modern cooking innovation, presents a new, improved "Thermal Eye" for automatic top burner cooking. Takes half the space of its predecessor. Now provides more sensitive heat control with any kind of pan. Saves money for range manufacturers through lower initial cost and easier installation.
ROBERTSHAW THERMOSTAT DIV., YOUNGWOOD, PA.

Cooking at the Carter's... countdown at Cape Canaveral...with **ROBERTSHAW CONTROLS**

Greatest advance since the bellows itself—new Formweld Bellows by Bridgeport update the age-old bellows principle for modern high temperature, high pressure service. Now, any suitable weldable metal can be utilized to provide extreme accuracy and much greater resistance to heat, pressure, vibration and corrosion. Ideal for missiles, rockets, jets and instrumentation.
BRIDGEPORT THERMOSTAT DIVISION, MILFORD, CONN.

America's foremost family of fine water heater controls—presents the UNITROL 200 for gas water heaters. Combines four essential controls in a single, space-saving unit: snap action thermostat, thermo-magnetic automatic pilot, large capacity gas cock, and pilot filtration. Extremely reliable and fast-acting. One of a full line of controls for every class of water heater.
GRAYSON CONTROLS DIVISION, LONG BEACH, CALIF.





Cable Systematics . . . a new Robertshaw concept—provides a facility for developing, producing and testing all types of custom cables and cable systems for airborne, ground support and electronic applications. The new Cable Center is dedicated to scientific reduction of complex wiring and connecting requirements to assure reliable systems faster and at lower cost.

AERONAUTICAL & INSTRUMENT DIV., ANAHEIM, CALIF.



Switching partners at a platter party—this jewel-like Acro Switch teams up with a coin-operated phonograph to provide endless hours of dancing and listening pleasure for teen-agers and adults. The accuracy and precision performance of this six-pole, open rotary, open blade Acro Switch assures selection of the right tune every time from the big choice of records.

ACRO DIVISION, COLUMBUS 16, OHIO

How many times have you said, "Don't worry . . . everything's under control"? Quite often, no doubt, for we live in a take-things-for-granted age. Put a coin in a juke box . . . turn a dial on your kitchen range . . . start-up an industrial machine . . . we expect things to happen, automatically.

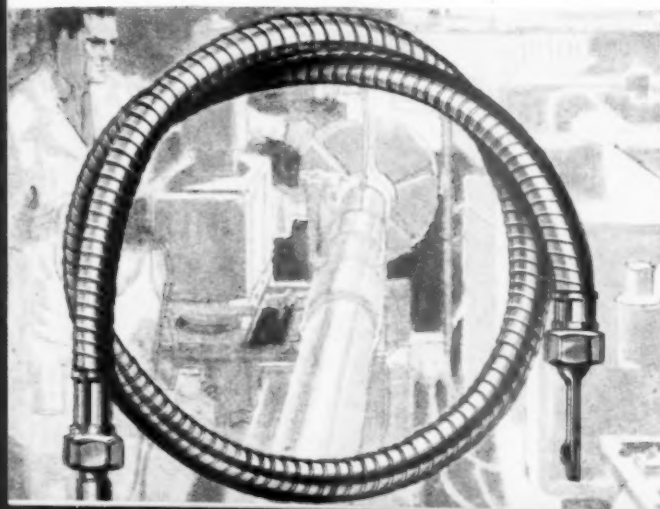
Robertshaw's behind-the-scenes job is to make sure these things do happen . . . safely and surely.

Little wonder, then, that Robertshaw Controls are also in the thick of the race for outer space. For on this frontier, there is an ever-growing need for controls and systems whose performance must be "taken for granted."

On the ground, in the air, or on up where the challenge of the universe beckons, Robertshaw continues to keep things under control . . . and make things better . . . for everyone.

Shortcut to savings . . . flexible shafting—eliminates gears, shaft alignment problems and exposed moving parts in machine tools, industrial machines, automobiles, appliances, electronic and other applications. Cuts assembly time, unit weight and space. Improves design and efficiency of many products requiring power drives, remote controls and couplings.

FLEXIBLE SHAFT DIVISION, CHATHAM, NEW JERSEY



"Everything's
under
control"

Robertshaw-Fulton

CONTROLS COMPANY

EXECUTIVE OFFICES: RICHMOND 19, VIRGINIA

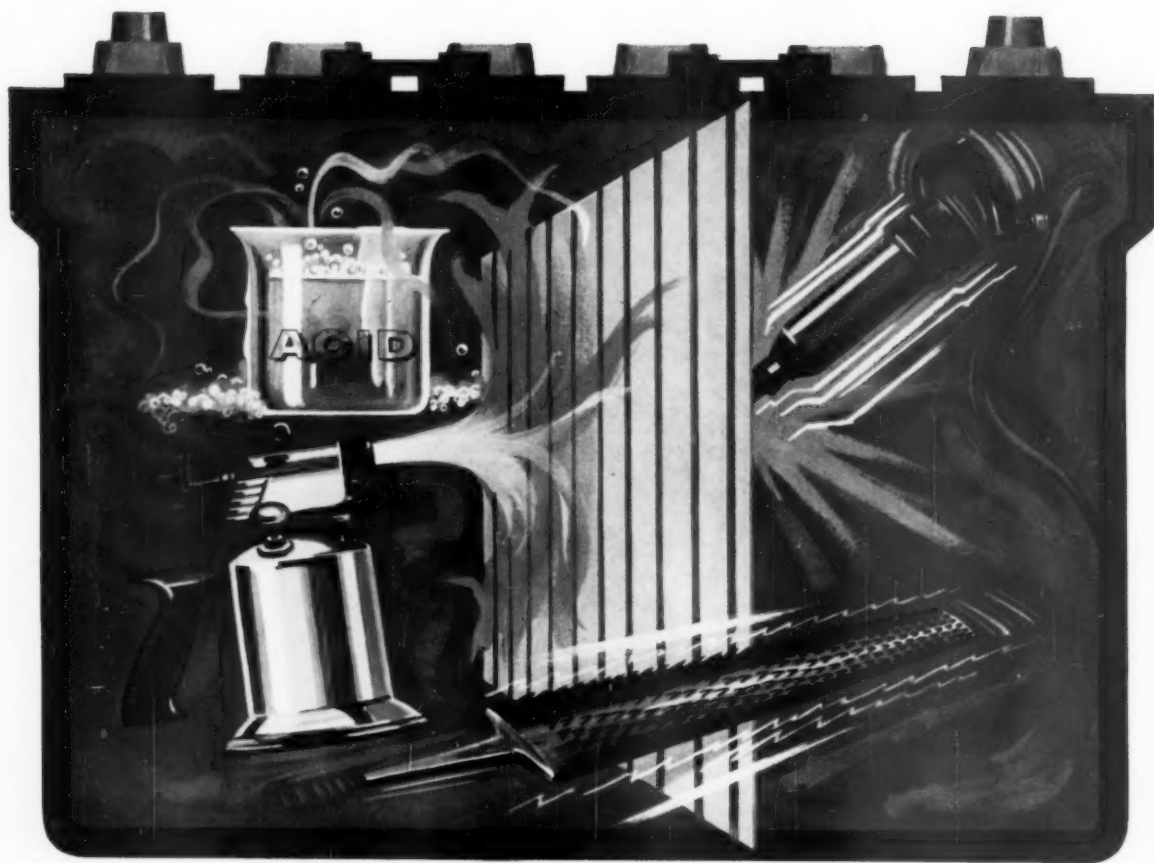
Subsidiaries and/or affiliates in Canada,
Western Germany and Australia.

Guardian of the heat in gas range ovens—this Robertshaw Oventrol gas oven heat control makes home baking and broiling easy and carefree. Combines thermostat, oven gas valve, pilot filter and automatic oven lighter in one compact unit. Millions of Oventrol units have been put in service since Robertshaw pioneered in gas oven heat control for kitchen ranges.

ROBERTSHAW THERMOSTAT DIV., YOUNGWOOD, PA.



DEWEY AND ALMY PRODUCTS AT WORK:



CHARMED LIFE *in a torture chamber*

How long will your auto battery last?

No longer than the thin fiber "separators" that keep the metal power plates from touching and "shorting out."

Yet these porous, non-metal parts must stand up under constant punishment . . . from engine heat, corrosive acid, road vibration and abrasion.

And that's why you'll get more starting power and more staying power from *your* next battery if it's built with DARAK Battery Separators.

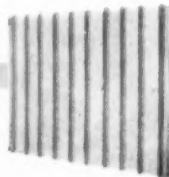
DARAK Separators are made of selected fibers for controlled porosity. They permit free flow of acid for peak power output. Yet they lead a charmed life in the "torture chamber" of your battery.

Special resin impregnation gives them extra toughness. Exclusive forged rib construction withstands heavy punishment. And a coat of rugged, plastic "armor" on the side that touches the positive plate further helps DARAK Separators to actually outlive the battery itself.

Behind these features is the *specialized research* through which Dewey and Almy chemists and engineers are finding the right combinations of fibers and plastics for a wide range of industrial products. Behind them, too, is a wealth of practical production-line experience in fiber impregnation. Perhaps what we've learned in developing and manufacturing fiber/plastic combinations—like the 2 billion DARAK Separators we've produced since 1952—can help you with a product or a problem.

DARAK

BATTERY SEPARATORS



W.R. GRACE & CO.
DEWEY AND ALMY CHEMICAL DIVISION



Cambridge 40, Mass. • Chicago 38, Ill.
San Leandro, Calif. • Montreal 32, Canada

BATTERY SEPARATORS • CHEMICAL PRODUCTS FOR THE CONSTRUCTION INDUSTRY • CONTAINER SEALING COMPOUNDS • FLOWED-IN GASKETS
METEOROLOGICAL BALLOONS • ORGANIC CHEMICALS • ROCK PRODUCTS CHEMICALS • SHOE MATERIALS • SODA LIME • TEXTILE PRINTING PRODUCTS



After a Year, New Sinecure for U.S.

One year ago this week, Russia captured the world's headlines by launching the first earth satellite and demonstrating an imposing lead over the U. S. in ballistic missile development.

A year later, the U. S. has gained confidence, thanks in considerable measure to the headway its own accelerated missile program has made (table, page 26). And, despite some criticism, there's a prevailing optimism over the nation's general readiness to defend itself.

The improvement is due to the changes Sputnik itself forced in U. S. defense policy—spending more money, bringing new men into defense management, revamping the whole missile and space program, and reorganizing the Pentagon.

• **Sanguine Views**—The new cheerfulness is typified in this appraisal by Gen. Nathan F. Twining, chairman of the Joint Chiefs of Staff: "Considering our superior strategic retaliatory power, our flexible and mobile tactical power, our industrial prowess, and our eco-

nomie strength, I say in full confidence that we are militarily superior over-all to the Soviet Union today. I see no reason why, with concentrated effort and good judgment, we should not be superior in the 1960s as well."

Behind Twining's outlook, which squares with Eisenhower's own views, are these basic conclusions:

- The threat of an all-out nuclear war is remote. The U. S. has intervened in two brushfire wars—Lebanon and Quemoy—without raising a real threat of intercontinental hydrogen bomb devastation.
- The nation's present \$41-billion military budget is sufficient to keep up with the Russians or outstrip them in ability to fight both brushfire and all-out wars.
- The U. S. is still building a defense that includes such standbys as strategic bombers, at the same time that it is putting increased emphasis on missiles of all ranges, based both on land and in submarines.
- **New Daring**—Behind a look of

"nothing much has really changed," there is really a revolution. For one, Sputnik and its aftermath have obliterated resistance to bold experimenting with entirely new concepts of offensive and defensive warfare. No one scoffs any more about talk of landings on the moon, about military space vehicles. The projects that are getting the push are the ones that promise future results.

I. Vestiges of Gloom

Not everyone goes along with the Administration's own claims as to the nation's progress since Sputnik. There are those who think the U. S. is lagging dangerously behind. By putting the balanced budget ahead of defense needs, they argue, the country will wind up again in its pre-Sputnik predicament—a lap behind the Russians.

Such critics can be found in the higher echelons of the Pentagon itself, in industry, and, of course, among the Democrats in Congress. Even Air Force Secy. James H. Douglas acknowl-

How Far Missiles Have Come This Year

Intercontinental Missiles

		MAJOR CONTRACTORS	PROGRESS OVER PAST YEAR
ATLAS (AF)	Will be first operational U. S. ICBM; by 1960-61.	Convair, North American, GE, Burroughs, AMF.	First successful test flights completed under own guidance and with all three engines burning, though only at half range; prototype production and development speeded up; U. S. base construction begun (three so far).
TITAN (AF)	More complicated ICBM, could launch most space vehicles.	Martin, Aerojet, Avco, Arma Bosch, Sperry Rand, Bell Labs.	Tests of components almost completed; development schedule unchanged.
MINUTEMAN (AF)	Solid-propellant missile; could be ready by 1965.	Avco, North American, Thiokol, Aerojet. General contractor not chosen.	Advanced from study stage to development of components; extra funds earmarked; subsystem prime contracts awarded.
SNARK (AF)	Winged, turbojet-powered 5,000-mile strategic missile.	Northrop, GM-Allison.	Production under way at low volume; first operational base being built at Presque Isle, Me.

Intermediate-Range Missiles

JUPITER (AF)	Much like Thor, to be ready 5-6 months later.	Chrysler, North American, Ford Instrument, Hayes Aircraft, Reynolds, Good-year Aircraft.	Production line set up; crew training intensified; plans set for three squadrons — first one to be operational in Italy in next several months.
THOR (AF)	To be operational by December.	Douglas, GE, North American, AC Spark Plug.	Production well under way (with twice the capacity provided for Jupiter); crew training intensified; first operational unit being set up in Britain; plans set for seven squadrons.
POLARIS (N)	Sub-launched, solid-propellant IRBM; Navy's entry in strategic missile race.	Lockheed, Aerojet, MIT, GE, Interstate Electronics, Westinghouse.	Much extra money poured into project; design proved workable and refinement begun.
PERSHING (A)	Solid-propellant field ballistic missile, smaller and lighter than 200-mile Redstone but with at least twice the range.	Martin, Thiokol, Bendix Eclipse, Bulova, Thompson Products.	Moved from study stage to early hardware development; first contracts awarded. With Pershing, Army is shifting from traditional arsenal system of weapon development, giving more work to industry.
REGULUS II (N)	Winged, turbojet-powered, supersonic 1,000-mile naval missile.	Chance Vought, GE, AC Spark Plug, Texas Instruments.	Volume production begun; fired from surfaced sub first time; program accelerated.
MACE B (AF)	Winged, land-based missile similar to Regulus II; successor to Matador.	Martin, Goodyear Aircraft, AC Spark Plug.	Cross-country flight tests well under way; training intensified; will be operational shortly to replace Matador in Germany, Formosa, Korea.

(AF)—Air Force

(N)—Navy

(A)—Army

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edged last week that the Russians have an inventory of missiles "with a range of less than a thousand miles" and that by next year they'll have a "very small number" of intercontinental ballistic missiles ready to be fired, if needed, on U. S. targets.

To the critics, this adds up to admission of a one- or two-year lead for the Soviets. But unless the Soviets take a new lead in some unforeseen way—with an impact comparable to the first Sputniks a year ago—no one expects

the critics to make more than a minor dent in the Administration's program.

II. The New Optimism

The table above shows some of the reasons for Washington's new optimism. Despite fizzles in the Navy's Vanguard earth satellite program and the first Air Force attempt to reach the moon, and the highly publicized mishaps in missile test launchings, there

has been significant progress in development of new U. S. missiles.

Over the past few years missile projects have burgeoned into the second most costly military hardware program—behind aircraft. Production expenditures on 36 different projects—ranging from short-range anti-tank missiles to ICBMs—will add up to at least \$3.4-billion this year. That's almost one-quarter of the total military hardware dollar. Just four years ago total spending amounted to only \$718-million.

Within the next two years, production outlays for missiles are expected to jump to some \$5-billion a year—about what aircraft expenditures will then be.

• **Settled Industry**—The Administration's optimism is shared by most of the experts in the missile industry. While there have been no really stunning technological breakthroughs over the past year, there is a quiet but firm conviction that the U.S. has come through its missile shakedown period with flying colors.

You can sense this attitude everywhere. It's the sort of thing you come to learn to feel about any scientist—when he's happy about the way he's got a project by the tail. Missile scientists may not have all the specific answers yet, but they are confident that they are headed in the right direction.

The missile industry today has shaken down to the point where there are a few recognized authorities in the most critical fields—inertial guidance, rocket propulsion, nose cone design and the like. There are as well a great many more companies involved in the various phases of missile development. The companies that moved with the Administration into advanced military projects, and in some cases helped to push the Administration along, are getting the contracts for tomorrow's weapons (BW—Sep. 29 '58, p. 39).

• **Faster Work**—There have been attempts—in some cases, successful—to speed the development of missiles. The Air Force's Thor intermediate-range ballistic missile, for instance, will be operational at bases in Great Britain less than two years from the project's start. Technical problems have been overcome sooner because of faster research and development. The solid-fueled Navy Polaris is a prime beneficiary.

Engineering of missiles has become more precise. Along the same lines, more or less standardized hardware has become available to cut down development lead time. AC Spark Plug's self-contained, inertial guidance system developed for the Air Force Thor IRBM, for instance, has been adopted with minor modifications for later models of the Navy Regulus and Air Force Matador missiles. The initial models were guided by radio command systems vulnerable to enemy jamming.

• **Airborne Missiles**—Paralleling the great strides in development of long-range, surface-to-surface bombardment missiles has been the little-noticed progress in the new field of air-to-surface missiles. These will allow Strategic Air Command bombers to let loose nuclear explosives onto important targets from a distance.

B-47 medium-range bomber units will be equipped later this year with the operational Rascal, which can be launched about 100 miles from target. The major

contractors are Bell Aircraft, RCA, Texas Instruments, and American Bosch Arma. The Hound Dog—a similar missile, but with at least three times the range—is being pushed through development by North American Aviation and Pratt & Whitney for installation on the Air Force's long-range B-52 bomber.

The Navy is also up to its neck in air-to-surface missiles as a means of extending the range of carrier-based attack planes. Martin, Aerojet-General, and Elgin National Watch Co. are producing the Bullpup missile, now undergoing tactical evaluation. Temco Aircraft, Reaction Motors, Texas Instruments, and the W. L. Maxson Corp. are working on the top-secret Corvus.

• **Off the Ground**—The Army announced on Tuesday award of a \$135-million contract to continue research and development on Zeus, an advanced Nike ground-to-air missile for defense against both enemy missiles and planes. The contract went to Western Electric.

III. More Budget-Cutting

The new optimism shows up most clearly in the Administration's feeling that once again it can tighten the defense budget (BW—Sep. 6 '58, p. 31).

The Pentagon's fiscal 1960 budget will be held to about \$42-billion—a boost of roughly \$1-billion over this year's spending and \$4-billion over the pre-Sputnik ceiling. While this is obviously a vast increase in outlays, it nevertheless falls far short of what's needed to finance current military plans over the next year or so. The crash projects whipped together during the post-Sputnik furor, the steady inflation in defense costs, the crisis in Lebanon and the Formosa Strait, and the recent pay hikes for military personnel have all combined to swell defense budget requirements for the fiscal year, starting next July 1, several billion dollars over the \$42-billion ceiling set by the Administration.

• **Mere Billion More**—So the Pentagon is being forced to increase its spending only \$1-billion next year. As a result, there's a new round of scare talk of impending cancellation of contracts among defense producers.

In deciding where to cut, the Pentagon is taking a hard line on competing projects. There are numerous cases of similar missiles and aircraft under development to perform the same mission. Many experts, even in industry, now believe duplicating effort is no longer so necessary, because of recent advances in both technology and industrial competence.

• **What Will Go**—Pentagon decisions will be made shortly to cut out certain costly projects and to reduce production schedules for others substantially.

The outlook, for instance, is for can-

cellation of Martin's Seamaster jet sea-plane project, now two years behind schedule, according to Pentagon sources.

Another Martin project, the Air Force's Titan ICBM, due for its first firing next week, also figures in the speculation over what's to be canceled. A top-ranking Defense Dept. official says "Titan is a remarkably unlikely candidate for discontinuance." But there's no doubt that Titan will advance far more slowly than project officers and contractors would like.

Output of Convair's B-58 supersonic medium-range bombers will be held down. Seventy-seven planes are already ordered or planned. Pentagon planners have cooled to the plane because it depends on overseas bases.

The most widely publicized missile competition—Thor vs. Jupiter—will end shortly. Both missiles are now in production, with output of Thor about double that of Jupiter. Probably the Jupiter will remain in production only long enough to equip the three squadrons now planned for Italy, Turkey, and perhaps France.

New Air Agency Chief Has Tough Task Ahead

Lt. Gen. Elwood Quesada, named by Pres. Eisenhower to head the new Federal Aviation Agency, faces a formidable task of marshaling the government's money and manpower to meet the problems of the jet age.

Not the least of his worries will be convincing Congress that he should continue to receive the pay and benefits of a retired Air Force general.

Appointment of the World War II fighter pilot and commander becomes effective Nov. 1, subject to Senate confirmation.

• **Job**—Congress has given the new, independent agency all the functions of the present Civil Aeronautics Administration and Airways Modernization Board, plus some of the Civil Aeronautics Board's duties. The idea is to nail down civilian control over both military and civil traffic.

The FAA chief, who will continue to serve as the President's aviation adviser, faces these tough problems:

• Virtually revolutionizing an obsolete air traffic control system to handle more traffic at higher speeds.

• Enlarging and improving the nation's airports to handle jet traffic.

• Reorganizing top staffs to shunt off men insensitive to the drastic changes coming in aviation within civil service limitations.

Eisenhower voiced hope that Congress would restore Quesada's commission, which he must resign under the law creating FAA. But such action is considered doubtful.

Recovery Gets Into Full Stride

● New developments on wages, capital spending, inventories, output remove all doubts that recovery is full-scale.

● And it's clear now that what routed the recession was the firmness in level of personal spending.

● But lingering pre-recession problems, and high jobless rate, insure that no runaway boom is at hand.

All the pieces are falling into place—and it's clear now that the recovery is a full-scale one. Recent weeks have removed what doubts remained:

- The UAW-Ford settlement wiped out the threat that a major strike in autos might upset the recovery's timetable, even thrust the economy into a deflationary spiral.

- Instead, the Ford settlement—which implies more of a hold-down to rising wages than industry has managed to win in recent years—means that industry should be able to keep its labor costs under control, and with productivity rising, to widen its profit margins—without the kind of boosts in prices that would kill off sales.

- Capital spending, which took a steeper dive early this year than had been expected by businessmen themselves, has flattened out sooner than anyone expected. The rising profits trend should keep the curve of plant and equipment expenditures turning upward during 1959—though it's unlikely that capital spending will mount higher than \$33-billion to \$34-billion, somewhat under 1957's \$37-billion peak.

- Inventory liquidation is ending. A leveling-off of inventory liquidation to a zero rate—which seems probable for the last quarter of this year—would mean a terrific boost to the economy—after the inventory slashing at an average annual rate of nearly \$9-billion that went on all through the first half.

- By the end of the year, the industrial production index should have climbed all the way back to its pre-recession peak. New orders to manufacturers are rising, and the production index is already about halfway back to its former high.

- Gross national product, which took a \$20-billion plunge from third-quarter 1957 to first-quarter 1958, is climbing fast. Some Washington technicians think the third-quarter GNP figures will already be up to \$440-billion, that the fourth quarter may see GNP set a new peak—above the \$445.6-billion rate of last year's third quarter.

So swift has been the turn around that some economists are caught with a feeling of acute intellectual frustration:

How can a recession that fully lived up to its advance billing—with a drop in capital spending as a result of widespread excess capacity, a major drop in auto sales and many other durable goods industries, a radical slashing of inventories, a faster pile-up of unemployment than during any earlier postwar recession—how can such a top-grade recession be over so soon?

I. Unexpected Strength

Most economists now are willing to admit that they overestimated the severity and duration of the recession, on the basis of their look at those fearful first-quarter figures.

- **Why**—What does the swift end of this recession mean? To some economists and businessmen, it simply means that the U.S. economy is a lot more stable than anyone has ever given it credit for being. One high-placed Administration economist attributes the stability to the continued functioning of an essentially free-enterprise system, credits Pres. Eisenhower as the one man who really had confidence in such a system.

- **Unorthodox View**—Others, such as Harvard's Sumner Slichter, agree that the "principal lesson to be learned from the recession is that the economy is more resistant to contraction than had been suspected"—but for completely different reasons from those formerly assumed.

Slichter argues that you can't account for the steadiness of the economy on the familiar basis that business firms had switched to a policy of gearing investment plans to long-range expectations and ignoring cyclical contractions along the way. On the contrary, capital spending in the recession proved to be highly sensitive to sales decline.

Slichter also denies that adroit government use of monetary and fiscal policy accounted for the quick recovery. On the contrary, he says, "the government moved tardily to offset the contraction." Nor does he—as do many economists and businessmen—give the credit to the "built-in stabilizers"—such as unemployment compensation and

social security benefits, which rose sharply as unemployment climbed.

Instead, Slichter gives the main credit to rising hourly wage rates, which brought a continued climb in the wages and salaries of those still at work.

This rise—which Slichter estimates at more than \$10-billion—was, he says, more than twice as important as the increase in so-called transfer payments such as unemployment compensation. In effect, he gives the credit to creeping wage and price inflation.

- **Bastion**—Whether Slichter's logic or statistics are right or wrong, however, the remarkable thing about this recession was that, despite a \$20-billion decline in gross national product, personal consumption expenditures dropped only \$2-billion from peak to trough. There is no question that this was the defense line that routed the recession.

But did the recession end too soon? Obviously it didn't—and still hasn't—for the nearly 5-million workers still jobless. But, in the sense of clearing the way for sustained and rapid growth, is the economy in any better shape than it was before the recession struck? Is 1959 likely to see a replay of the same kind of tensions and problems that assailed the economy in 1957?

II. How It Looks Now

Certain similarities with 1957 are apparent:

There is still a problem of excess capacity in many industries.

In such areas as steel and other primary metals, and in autos, it's highly unlikely that there will be real pressure for more capacity for some time.

Even so, the trend toward modernizing existing facilities—and the need to add new capacity to make new products—should give scope for a better showing in capital spending next year.

Creeping inflation is still with us. Despite the slight dip in the cost-of-living index in August, and the probability that consumer prices will change only slightly, a more pronounced up-trend is still probable for 1959.

Money is getting tight and will get tighter. The Federal Reserve Board has again mounted its big anti-inflationary weapons. If anything, though, the struggle for money between the Fed and the business community will be more acute this year than last—because the Treasury will have to finance an anticipated budget deficit of \$12-billion, and re-finance a sizable part of the national debt, in a money market in which interest rates are already climbing, and funds are getting shorter.

A safe forecast of Fed policy is that

it will be "as anti-inflationary as possible"—but just what that will mean in terms of the availability and cost of money for business is still a mystery.

• **Housing's Future**—One part of the mystery that seems less clouded than others is the implication for housing. As money rates climb and funds get tight, mortgages—especially government-pegged mortgages—are going to look less and less attractive to investors. For a time, housing will still run at the relatively high rates it has achieved on easier money earlier this year. But a reverse in direction of housing starts looks like a sure thing for 1959.

Housing has been going a long way toward proving the case of those who regard it as the one true "anticyclical" industry. Housing starts climbed smartly in the recession of 1958, as during those of 1948-49 and 1953-54. And, just as reliably, housing starts promise to decline in the recovery of 1959.

• **Critical Question**—The consumer, from a statistical examination of his debts and income and the age of the durable goods he's holding, ought to be in a position to help the recovery get some steam. But his mood still seems considerably short of exuberant.

He pays his grocer, he pays his doctor, he puts new wallpaper in the living room, and he's beginning to act more interested in replacing his worn-out appliance.

But how he feels about borrowing and spending for the new autos is a critical question still hanging.

Chances are that 1959 will be a markedly better auto year than 1958. The standard guess these days of 54-million sales of domestic cars looks reasonable—and the figure might well be several hundred thousand higher.

• **How Far and How Fast?**—The one big thing that the recession seems to have accomplished is that it spurred business to slash costs, get productivity moving up (BW—Sep. 20 '58, p37). This is already having its impact on profits—but it's also affecting employment, and will go on doing so for several months. And the persistence of unemployment is going to keep the buying atmosphere from being as hectic as it was during earlier recoveries.

This will mean that the recovery is going to have to go a lot farther and higher than did past recoveries before the country is back to what feels like full employment—say, 4% unemployment compared with August's 7.6% rate. Even with the economy at new record levels early in 1959, joblessness is likely to hold well above 4%.

And, of course, there will be a bigger population waiting to spend that record national income.

In sum, it won't be a profitless or a cheerless recovery. But it won't be an old-style, free-swinging boom, either.

Radio-Cable Merger

● Antitrust law prohibits them from negotiating yet, but their feelers are out and a legislative O.K. is likely.

● According to trade talk, American Cable & Radio and RCA Communications are beginning to see eye to eye. Western Union Cable Co., third of the Big Three, might also find its way into a merger.

● A merged U.S. overseas communications company could better compete with the British, who have big plans.

The international wing of the U.S. telegraph industry is looking toward merger. If Congress gives them an all-clear, the Big Three—Western Union Cable Co., American Cable & Radio Corp., and RCA Communications, Inc.—may link their separate systems into a single network.

Any linkup of this sort seems to be at least a year away. Under the antitrust laws, the companies can't even seriously discuss merger without Congressional approval. Sen. Warren G. Magnuson (D-Wash.), chairman of the Senate Interstate Foreign Commerce Committee, filed a bill authorizing a merger just before Congress adjourned. He will introduce it again in the new Congress. But before taking any action, his committee will have to study opinions of the Federal Communications Commission, Justice Dept., and State Dept.

• **British Competition**—Last week, the offstage murmur about merger was emboldened by the British Commonwealth's dramatic announcement of a 10-year, \$250-million program for building a worldwide cable system. This would provide not only cable but also photo-telegram, telephone, and Telex facilities.

That's a big step ahead of present U.S. plans. Even with a merger, the telegraph industry here would not have international telephone facilities. These are under the control of American Telephone & Telegraph Co. Besides, U.S. antitrust laws prevent combined ownership of telephone and telegraph.

Still, by merging, the Big Three would form a common front against British competition. They also would operate more efficiently by eliminating duplicate offices and equipment.

• **Many Cooks**—The merger idea, of course, is as old as the industry itself, which laid out most of its route systems before and just after World War I. But the idea never got far, mostly because of inter-company feuds. The industry continues to suffer from the overlap in connections to overseas points, anti-

quoted equipment in many instances, and costs that are rising partly because of an apparent excess of competition.

The Big Three handle the bulk of the industry's \$77-million annual business. Only \$5-million worth goes through Tropical Radio Telegraph Co., owned by United Fruit Co.; Press Wireless, Inc., an affiliate of the New York Times; Globe Wireless, started by the Dollar Line; and U.S.-Liberia Radio Corp., a subsidiary of Firestone Tire & Rubber Co.

Even with the growth from \$45-million in 1949 to \$77-million last year, the industry's total income is not much bigger than that of Britain's Cable & Wireless, Ltd. As a Commonwealth monopoly, controlled by the British Post Office, it takes in about \$60-million annually.

• **Tangled Wires**—While the incomes of U.S. carriers are relatively small, their operations are hugely complex:

• American Cable & Radio, 58% owned by International Telephone & Telegraph Corp., does a \$33-million business. Organized by the late Col. Sostrhenes Behn of ITT, AC&R is the only U.S. carrier that uses both radio and cable. One subsidiary, Commercial Cable Co., has a transatlantic cable to Western Europe that is older and less economical to operate than a similar Western Union cable. A second offshoot, Mackay Radio & Telegraph Co., beams radio messages east and west round the globe, competing mostly with RCA. The third, All America Cables & Radio, Inc., handles north-south routes throughout Latin America.

• RCA Communications, transmitting only by radio over east-west routes, has lower operating expenses than AC&R. It does a \$25-million yearly business and makes more profit than AC&R, despite the latter's larger income.

• Western Union Cables, grossing \$14.5-million, is the overseas end of Western Union Telegraph Co. Its routes are limited to two cables—one

from Florida to Barbados, another going to Western Europe. WUC leases the transatlantic cable on a long-term basis from Anglo-American Telegraph Co., a British concern. This cable is Western Union's big money earner.

- **Western Union**—The major effort for a merger of telegraph interests began after World War II. In 1943, Western Union had bought out its only domestic competitor, Postal Telegraph, Inc. (until 1937, a subsidiary of ITT), giving it a monopoly in the U.S. The government then told Western Union to get out of the international telegraph business, but the order was not enforced because of wartime conditions.

After the war, Western Union stalled on carrying out the original order. In fact, it went so far as to lay plans for grouping WUC, its international subsidiary, with AC&R and RCA—under Western Union's management. The two competitors sarcastically called it the "Marshall Plan"—after Walter P. Marshall, Western Union's president. Western Union talked about the idea but got nowhere with it at that time.

- **Other Two Companies**—Meanwhile, AC&R and RCA continued to put out feelers to each other about a two-company merger. Personality clashes between ITT's Col. Behn, running AC&R, and RCA's David A. Sarnoff apparently kept these ideas even from reaching the stage where an act of Congress might be sought. Each man had started his career in the radio-cable business, and each refused to give in.

Now, however, a two-way deal seems to be in sight. With Col. Behn out of the picture, industry leaders say, AC&R and RCA are beginning to see eye to eye on a merger.

The muddy part of any merger scheme is where WUC would fit in. As a Western Union subsidiary, with the parent company's network of domestic offices, it has been in a strong position. AC&R and RCA have depended on Western Union's network of U.S. offices for a large part of their business.

While both companies have a string of message offices overseas, here they operate offices only in the "gateway" cities such as Washington, New York, and San Francisco. They complain that Western Union too often fails to divvy up messages among the carriers as it is supposed to do under FCC regulations. The two companies would benefit enormously from WUC's transatlantic cable and from its close ties with Western Union.

- **New Marshall Plan**—But Marshall of Western Union has his own plan. He now seems willing to sell out WUC—but only to the highest bidder and not necessarily as a part of a merger. He

has already arranged an option with American Securities Corp.—controlled by William Rosenwald, Chicago financier—to buy WUC for a reported \$25-million.

Whether American Securities, if it picks up the option, would want to tie up with AC&R and RCA is another question. But Marshall admits that, for U.S. carriers to compete successfully in the international field, a single company is the best solution. And Western Union has gone along with its two competitors in supporting Sen. Magnuson's merger bill.

- **Official View**—Both Sen. Magnuson and the carriers consider a merger to be in the "best interests of the country."

State Dept. officials apparently will support merger legislation. They point to technological developments in the telecommunications field and the growing threat of British cable competition. They argue that these new factors make it foolish to cling to the requirements of competition in the telegraph industry, provided under the Communications Act of 1934.

They would even favor, ideally, a single telephone and telegraph company, as the British now have. They cite AT&T's new U.S.-to-Britain cable that can be used for both phone conversations and telegraphic transmission of designs and drawings. FCC already has approved leasing of one telegraph channel of the cable to the Navy. The telegraph industry is protesting this move.

- **Arguments**—The positions of the Justice Dept. and FCC are far less definite. The Communications Act supposedly prohibits such a merger. But antitrust lawyers say it's not an "open and shut" case. They have opposed the merger idea before, but are less antagonistic now. They imply that antitrust laws have less definite application in the field of wire communication than in the field of broadcasting. Thus, in this view, the FCC would have more leeway for permitting a merger.

The Justice Dept. may even take the position that the FCC could approve or disapprove a merger at its own discretion—without new legislation being passed at all.

Since 1935, the FCC has flip-flopped in its views toward a merger. In 1935, it proposed a domestic and international telegraph merger, but it later backed away from this position.

That was when a Presidential board, set up in 1950 to study communications, indicated that a merger within the telegraph industry wasn't necessary.

Even if the FCC approves and Congress passes enabling legislation, the carriers themselves will have to sweat through complex negotiations before any big merger comes about.

"The Herd, Inc."

Merrill Lynch's "thundering herd" of 119 broker-partners plans to incorporate "to assure continuity."

Wall Street's "thundering herd," the 119 partners of Merrill Lynch, Pierce, Fenner & Smith, revealed last week that they were planning to transform the largest brokerage firm in the world into a corporation.

The chief reason is to "assure continuity of the firm," because each partner cannot add to his capital in the firm until after individual income taxes are paid, and because each is liable for the debts or lawsuits of the others, the threat of a capital drain is always present. But a corporation can retain earnings and, says one partner, "can live forever."

- **Delayed**—Partnerships are traditional in Wall Street for underwriting and brokerage firms. But the late Charles Merrill, who guided Merrill Lynch's growth, fought against the partnership form as "an antique." He was a leader in the crusade that led the New York Stock Exchange in 1953 to permit brokers to incorporate. By that time, Merrill himself was ailing, and the firm did not make the switch. In fact, only 51 out of 655 member firms have changed, most of them small firms.

Now the Merrill Lynch switch is in the works. According to the plan, the 119 partners—107 working partners, plus 12 partnerships held by estates or widows of former partners—would become stockholders to the extent of their current investment. No public sale of stock is planned.

- **Changes**—Instead of the partners splitting the profits, then paying taxes individually, the corporation will pay its 52% tax, then pay the stockholders dividends that are subject to individual taxes. The advantage: The stockholders can leave more income in the firm when it seems desirable.

The partners say it will be "business as usual" for the 300,000 clients. But for the staff, the corporation may establish a pension fund which was unfeasible for the partnership. Even more important, it can set up reserves for operating expenses and unforeseen contingencies. Directing partner Winthrop H. Smith will be chairman, managing partner Michael McCarthy, president.

- **Giant**—Even as a partnership, the firm has made its balance sheet public. It has capital of \$40.5-million; in its last fiscal year it chalked up over \$84-million gross income, and the partners split a \$14.8-million net before taxes.



DON PAARLBERG moves from Agriculture Dept. to replace Gabriel Hauge.



KARL BRANDT comes from Stanford to join Council of Economic Advisers.



HENRY WALLICH of Yale takes Treasury post as director of special studies.

President's New Economic Corps

With three new appointments, Eisenhower is keeping the Administration strong on professional economists.

The Administration moved rapidly this week to assure a continuing flow of advice from professional economists—filling two key posts made vacant by resignations, and creating a new one at top level in the Treasury.

Don Paarlberg, Assistant Secretary of Agriculture, was named Special Assistant to the President for Economic Affairs. He succeeds Gabriel S. Hauge, who resigned this summer to join the Manufacturers Trust Co. in New York as chairman of its finance committee (BW—Jul. 19'58, p32).

Paarlberg's appointment came along with Pres. Eisenhower's elevation of Maj. Gen. Wilton B. Persons to succeed Sherman Adams as the Assistant to the President and the promotion of Bryce N. Harlow, formerly one of three administrative assistants, to Deputy Assistant to the President in charge of Congressional liaison. Under Secy. of Treasury Fred C. Scribner, Jr., is expected to take Persons' old spot.

Karl Brandt, associate director of the Food Research Institute and professor of agricultural economics at Stanford University, was appointed to the President's Council of Economic Advisers, replacing Joseph Davis.

• **Down From Yale**—The new position—that of assistant to Robert B. Anderson, Secretary of the Treasury—goes to Henry C. Wallich, on leave from Yale University where he is professor of eco-

nomics. Wallich will serve as director of special studies assessing the impact of federal spending and taxes on the economy.

The Treasury has had no economist operating on so broad an assignment as Wallich's. He will work closely with Anderson and other top Treasury officials.

Wallich has specialized in monetary theory and practice, international finance, and the special problems of underdeveloped countries. He has held a number of consulting positions with the government, most recently in the White House on foreign trade. Before joining the Yale faculty in 1951, he was chief of the foreign research division of the New York Federal Reserve Bank. He has also been in the investment business in New York.

Wallich joins the Treasury at a time when Anderson's stature in the Administration is growing rapidly. Anderson is firmly established in the inner circle as Eisenhower's most trusted adviser on economic matters. Thus Wallich—as Anderson's economist—is in a particularly crucial role; he can rapidly become one of the most influential economists in Washington.

• **Benson's Aide**—Paarlberg moves into the White House in his first professional role outside his specialty of agricultural economics. He came to Washington as Agriculture Secy. Ezra T. Benson's economic adviser when the Eisenhower Administration took office in 1953. He played a big part in shaping Benson's policy of lower price supports and easier production controls.

Democrats made Paarlberg, along with Benson, a target for political at-

tacks during Eisenhower's first term. Like his boss, Paarlberg proved tough-minded under fire. He will carry some stubbornly held beliefs to his new job, too. One is that inflation is a prime threat and that any decline in the cost of living over the next few months will be only temporary. He sees no likelihood of runaway inflation but expects prices at the consumer level to start creeping up again.

Paarlberg also is convinced that budget-cutting should rate high on the list of White House targets over the next six months.

• **Not Another Hauge**—Paarlberg is not likely to fill immediately Hauge's role of intimate adviser to Eisenhower on economic matters. As originally set up when it was created for Hauge, the job was to be mostly administrative. The idea was for the holder to see that Administration policies were carried out by the responsible officials. It is likely to take on this character again as Paarlberg fits himself into the White House routine. Nevertheless, Eisenhower knows Paarlberg and likes him; he may draw Paarlberg into policymaking as he did Hauge.

Brandt is an internationally known agricultural expert who has specialized in foreign trade and livestock. A native of Essen, Germany, he has made numerous professional trips to Western Europe since World War II. He played an active role in the organization of CEPES, an association of West European businessmen patterned after the Committee for Economic Development in this country. In the U.S., he has also been active in water resources studies.



In Virginia's largest city, the only high schools open are all-Negro because . . .

What "Massive Resistance" Costs

In the rich and energetic port city of Norfolk, Va., a painful fact came sharply into focus this week: "Massive resistance" to public school integration carries a potentially huge price tag in dollars.

One part of that price tag is the integration fight's impact on school bonds from Southern districts—already evident on Wall Street. Underwriters report the market for Southern school bonds is "sticky." The bonds are moving, but usually at lower prices and correspondingly higher yields than comparable issues from other school districts. So far, few underwriters have encountered much trouble in selling the bonds; they go either to Southern investors, who normally buy close to home, or to other groups attracted by the slightly more favorable yields.

The real test will come if still-segregated school districts attempt to market new issues. According to underwriters, any such offering will have to carry a handsome premium. Even then, it may not win the good rating that's so important to an issue's success.

• **Integrated Schools or None**—At the moment, though, in Norfolk, the issue has been reduced to this: whether the free public school system dies—or survives on an integrated basis. To indus-

trialist Paul Schweitzer (picture, right) and his five colleagues on the school board of Virginia's largest city (pop. 291,000), the answer is at once simple and frustrating.

It is simple because Chmn. Schweitzer and the board have decided that public schools—whether segregated or integrated—are an essential for which there is no substitute.

It is frustrating because, as this week's events demonstrated, the destiny of the Norfolk school system is not theirs finally to control. From the statehouse in Richmond, Gov. J. Lindsay Almond exercises final control under Virginia's massive resistance law of which he is chief architect.

• **City Taken Aback**—When Almond invoked the law and closed six Norfolk junior and senior high schools—to which the school board had reluctantly assigned 17 Negroes among 10,000 white students after exhausting all legal devices for delay—the sprawling port city was shocked.

Norfolk's substantial citizens, in private conversations, agree that unless something changes drastically, there'll be an economic price to pay. What worries them most is the possibility that the price might be disastrous. For Norfolk is dependent on the Navy for

its prosperity. A gnawing fear among businessmen is that Navy patience will wear thin, that uncertainty among naval personnel about the opportunity for educating their children will provoke a shifting of operations to other Atlantic ports.

During the week, the Navy let it be known that it has neither the authority nor the inclination to set up its own school system. It sounded a little ominous to those who fear the worst will befall Norfolk. There was no direct threat, but it seemed to many that the Navy was giving notice it expects school facilities to be available with an "or else" implied.

That is the most pessimistic view. But if Almond should exercise another of his extraordinary powers and turn back the closed schools to the city, there will be another difficulty—less frightening, but still unpleasant to business and industry: the prospect of a sharp increase in city taxes.

I. The Cost of Integrating

Under massive resistance, no state funds can be appropriated to integrated schools. And the Norfolk school board, if it regains control, believes it has no choice but to operate the affected



... the state closed white schools to prevent the beginning of integration.

Norfolk and Its Businessmen

schools on an integrated basis.

Immediately, that would cost the city a sizable chunk of money. The state's basic appropriation to the Norfolk system for the 1958-59 term is \$2.4-million. At least \$678,737 of that will be lost; that sum would have been allotted to the six predominantly white senior and junior high schools seized by the governor.

• **End to State Cash?**—For this school year, at least, Norfolk's all-white elementary schools and its all-Negro elementary, junior, and senior high schools are operating in the historic, segregated fashion—which means they still get state aid. Looking a year or so ahead, however, Norfolk can see a situation where—unless Virginia's massive resistance collapses—all the so-called white schools will either be closed or be operating entirely without financial help from the state.

Presumably, in such a future the only Norfolk public schools operating with state assistance would be the all-Negro institutions. The city got a glimpse of this sort of situation this week when Negro junior and senior high schools opened for business as usual, while 10,000 other youngsters in grades 7 through 12—all but 17 of them white—sat it out.

• **Bigger Levy**—There are no plans, but fiscal realists are certain that the school deficit would have to be met from a higher city real estate tax. Norfolk's rate is now \$3 for \$100 of assessed valuation. Common talk among the city's businessmen is that the municipal government would be forced to ask for a 25% to 33% increase—or a rate of \$3.75 to \$4 per \$100.

This problem is not Norfolk's alone. Two other Virginia school districts—the city of Charlottesville and Warren County—have schools closed. And many Virginia cities will confront the problem as the apparently inevitable integration orders come down from federal courts in the future.

• **Resort to Income Tax**—There have been proposals that the state income tax, basic source of the revenues that Virginia appropriates back to schools, be repealed, leaving that source of funds to local governments for support of schools. Precise figures for Norfolk are lacking, but such a step would more than solve the school financing problem. The city's residents pay considerably more in state income tax than is allocated back to their schools.

There is little or no chance, however, that Virginia's legislature will give serious consideration to any proposal



SCHOOL BOARD Chmn. Paul Schweitzer fears effect on city if the schools stay shut.



PRIVATE SCHOOL for some Norfolk students locked out of public classrooms was launched by First Methodist Church. These teen-agers wait on church steps to sign up.

to let go of the income tax. The state legislature is rural-dominated, and few rural areas could support their own schools without sharply raising tax rates or broadening tax bases, or both.

• **Federal Dollars**—The city of Norfolk's business dependency on the Navy extends to a smaller degree also to its school system, which anticipates direct federal payments this term of \$1.25-million. This is "impact" money, provided under federal law to ease the burden of schooling in communities where 3% or more of public school students have parents in military service, in federal civilian jobs, or working for direct defense contractors. Unless the closed junior and senior high schools are reopened, Norfolk will lose \$352,000 in such payments.

So, either with or without the schools operating, Norfolk takes an immediate financial bruising. If it opens the schools integrated, it loses \$687,737 in state funds; if it doesn't, it loses \$352,000 in federal funds.

II. A Board's Ordeal

Paul Schweitzer and his fellow school board members profess no inside knowledge of whether Almond will honor their request to turn back the schools. The members—like Schweitzer, successful business and professional people—do think their best chance is for the prominent people of Norfolk to give them open support.

Thus far, the board's most important public support has come from 60 ministers who petitioned the City Council

to take whatever steps are necessary to open the schools. On Tuesday, the council—a business-oriented body—asked Gov. Almond to open and operate the schools. It did not ask the governor to return the school control to local authorities. The council move put some pressure on Almond, without committing the councilmen to endorsement of steps that would lead to integrated classes.

• **Who's Who**—Schweitzer, an energetic and amiable, well-tanned, cigar-smoking man of 55, is president of Layne Atlantic Co., a successful concern that develops and engineers big-scale water supply and distribution systems. Other members of the school board are a lawyer, a seafood wholesaler, a fertilizer manufacturer, a furniture retailer, and a woman, Mrs. Mildred Dallas, who, besides being an executive in an auto agency, runs one of the city's outstanding kindergartens.

Extreme segregationists have heaped abuse on them. Their foes ignore the fact that the board resisted integration to the point where members were threatened with jail terms. And in the end, they accepted only 17 of 151 Negroes who sought admission to white schools. But none of the board admits to having lost any business as a result of their positions—except in the sense that, during recent weeks, they have been able to pay no attention to private affairs.

For days, the board was in practically nonstop session as the school problem neared its climax. Schweitzer solved his private business problem one recent

day by having his branch office managers, spread out from Maryland south to the toe of Florida, fly to Norfolk for an all-day meeting.

The board members, all appointed by the City Council, serve without pay. They preside over a school system that will have a calendar 1959 budget, if things right themselves reasonably well, in the vicinity of \$12-million.

III. A City's Ordeal

If this had been a normal school term, the Norfolk system would have enrolled about 42,000 students this fall. If all the closed schools were to open next week, nobody knows now what the total enrollment would be. There's no exact count, but literally hundreds of families have sent their children "away" to school—some as far as to New England.

The massive resistance legislation provides for the state to honor all contractual obligations of school systems involved in forced closings. The Norfolk board, which gets state aid for only 1,483 teaching positions but employs 1,744 teachers in order to lighten the load and broaden the curriculum, gives all teachers a 10-month contract. They are assured of full pay for this school year, whether they teach or not.

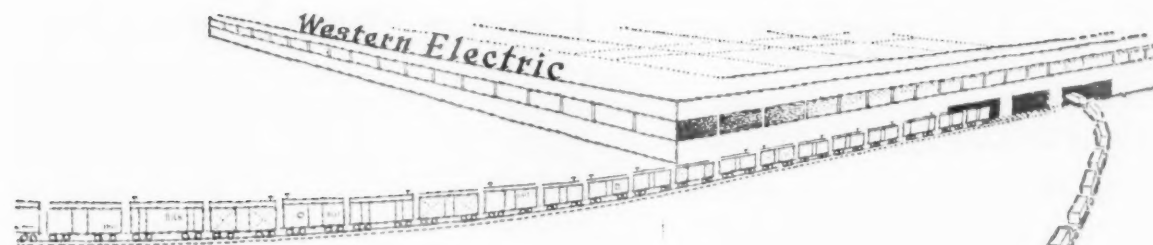
• **Solvent City**—The city of Norfolk, which fixes the system's budget and guarantees its indebtedness, is in sound financial condition. There is little financial worry about the present—but plenty about the future.

With only one recent exception, the city has relied on sale of general revenue bonds for all purposes, including school construction. The school district has no authority to issue bonds, and a strong cash position in the city treasury has enabled Norfolk's financial experts, most times, to pick their spots in the market—even to the point where many times bonds are not offered until school buildings have been finished.

Thus, in 1956, Norfolk offered a \$2.5-million issue that was mainly remarkable for two reasons: It was earmarked for schools, and it was issued just as the school crisis was taking form.

A five-member Virginia syndicate bought the bonds at a 3.89% rate, prompting Mayor W. Fred Duckworth to observe that "we wouldn't have sold these bonds if the buildings hadn't already been built or under construction."

• **Softness Now**—There seems to be general agreement that Norfolk revenue bonds would encounter a soft market today—and for as long as the school crisis exists. "And, for that matter, I would imagine," says one local businessman, "that this thing would cause industries to be cautious about moving in—not only this area, but all of Virginia."



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For Quemoy, a Long Stalemate

● That's the prospect this week, as worst of crisis seems over, and weeks of diplomatic haggling loom ahead.

● It's settling down to something like Berlin blockade, but with opening for negotiations Berlin didn't have.

● And Dulles gives strong hints of Nationalist-Red Chinese compromise he's shooting for in long run.

The worst of the Formosa crisis seems to be over this week. It is settling into a military and diplomatic siege, in some ways comparable to the 1948-49 Berlin blockade. And there's almost no talk in Washington of a "limited" war, as there was during the grim days of early September.

At midweek, U.S. policy toward the offshore islands of Quemoy and Matsu became more precise than it had been before. Secy. of State Dulles made it clear that, instead of backing the Nationalists' present concentration of 100,000 troops on the islands, the U.S. would favor withdrawal of at least some troops to Formosa—if there were a ceasefire with the Communist Chinese.

• **Haggling Ahead**—A long period of diplomatic haggling, at Warsaw and possibly in the United Nations, seems to lie ahead. Dulles believes that before there's any settlement, the U.S.—or just plain fatigue—will make a Formosa Strait compromise look like the best way out to both Chinese sides. A compromise will only come when:

• Peking realizes it can't bluff Washington into abandoning the offshore islands without giving something in return, such as an agreement not to use force in trying to take Formosa.

• The Nationalists see that they have nothing to gain—in fact, a lot to lose—by hanging onto the offshores as military bases.

• **Likely Result**—Washington's main lever now in negotiations is the relative success of U.S. and Nationalist forces in keeping open the supply line to the offshore islands in the face of a continuing artillery barrage from the mainland.

The Reds, of course, could pull surprises. There's a remote chance they might attempt to invade the offshores—or even start another conflict in Korea or Hong Kong.

But with the military situation deadlocked over Quemoy, the Formosa crisis appears to be moving slowly toward a "two Chinas" settlement. If that's the way things turn out, both Chinese sides would renounce the use of force to try to invade the other. In short, you would have, under such a set-

tlement, a Communist China and Nationalist China living nervously, but peacefully, side by side.

I. Signs of Improvement

There are several good reasons for assuming that the worst of the crisis is over.

For one thing, events indicate that the Communist Chinese don't intend to push the U.S. into a war, either by a full-dress assault on the offshores or by risking so stiff a blockade of Quemoy that the Nationalists, with U.S. backing, would feel impelled to attack the mainland. The Communists have gone out of their way to hit any U.S. ships or aircraft engaged in the supply operation for Quemoy. In fact, the Communists seem to have let just enough supplies slip through the shellfire to keep the beleaguered Quemoy garrison going. Anyway, from now on high tides would make an invasion from the mainland increasingly risky.

On its part, Washington has tightened the reins on Chiang Kai-shek—even though his Formosa government claims to be making decisions independently of the U.S. on all matters in the crisis. Washington has sternly warned that any Nationalist move leading to U.S. involvement in a war with Red China would violate existing U.S.-Nationalist agreements. As a further safeguard, Washington is keeping Chiang's military forces on strict rations of fuel and ammunition.

• **Like Berlin, With a Difference**—With a military showdown more unlikely than ever, the Formosa situation as a whole resembles the one in Berlin in the winter of 1948-49. Washington has thought of Quemoy as a power symbol, just as Berlin was. It doesn't want a war with Peking over Quemoy any more than it wanted war with Moscow over Berlin. In both places, what had the makings of a military explosion turned into a stalemate, with the U.S. playing a crucial role in helping supply food and military equipment.

But there's at least one important difference: While the U.S. merely sought to maintain the status quo in Berlin,

Dulles now is willing to negotiate toward a settlement that calls for a ceasefire from the Communists—but also a withdrawal from Quemoy.

II. Where U.S. Stands

Though Dulles is showing his hand more than he did a month ago, he doesn't intend to rush the pace of diplomatic bargaining. From the start, he has gone out of his way to keep the Warsaw talks going, even when they have appeared to be getting nowhere. Negotiations will continue for at least another week, probably longer. Under present planning, the U.S. won't take the Formosa crisis to the U. N. until and unless the Warsaw talks break down or the military situation in the Strait unexpectedly worsens.

The State Dept. is ready to have Western European governments, especially the British, keep feeling out Soviet and Communist Chinese intentions through diplomatic channels. Beyond that, Dulles would be willing to hold personal talks with Chou En-lai, Communist China's foreign minister—but only if a quick agreement seemed likely.

The Administration is under pressure, at home and abroad to modify U.S. policy on the offshores. Mail reaching the State Dept. is heavily on the critical side—a fact that drew the ire of Vice-Pres. Nixon when disclosed. Some Democratic leaders also are attacking the Administration's stand.

• **Bargaining From Strength**—While stating bluntly that U.S. policy toward Formosa won't change, Dulles nevertheless is willing to bargain with the Communists. But he will do this only from a position of strength. The flow of guided missiles and heavy artillery to Formosa is continuing.

The Nationalists are almost as tough an obstacle in the way of a settlement as the Communists, but the heavy punishment they are taking on Quemoy, in the long run, may make them move away from their present rigid policy of "no compromise." That's Washington's hope.

• **Hints**—Dulles this week gave some strong hints as to the National-Communist Chinese compromise he is shooting for. It would consist of a renunciation of force in the Strait by both sides. The offshore islands would be demilitarized, even possibly ceded to the mainland in the long term. To back up his "no force" doctrine in the Formosa Strait, Dulles might set up a system of economic sanctions to be used against the violator—but that idea hasn't been worked out in any detail.

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In Business

• • •

Massachusetts Weighs Bill That Brings Variable Annuities Near For Life Companies

The Massachusetts Senate this week is considering a bill that would bring the life insurance companies a long step nearer to being able to sell variable annuities—whose return varies with the ups and downs of the stock market.

The Massachusetts bill would permit life companies to set up separate funds for pensions. Once a guaranteed minimum of each fund was covered by fixed income investments, the rest could be placed in common stocks. And if the total income from all sources exceeded the guaranteed payments, the benefits could be raised.

The measure would enable the life companies to compete more successfully for pension business with the banks, which are already allowed to invest in stocks.

• • •

Cancer Society to Ask Questions About Health of a Million Americans

The biggest dragnet ever thrown out for information on cancer is being prepared by the American Cancer Society. One-million Americans will be interviewed in their homes by 50,000 volunteers to amass data that may reveal relation of cancer to heredity or personal habits.

Questionnaires are being tested, and interviewers trained. The society's executive board is expected to vote at the end of October to launch the survey. Families that are interviewed will be followed up each year.

The society hopes that the survey, by its scope and the size of the sample, will turn up valuable clues for cancer researchers.

Questions deal with hereditary background, possible cancer causes (air pollution, fatty acids), personal habits (smoking, hot beverages, hours of sleep), personal characteristics (height, weight, baldness).

• • •

Downtown Rochester Hopes to Counter Shopping Centers With \$15-Million Plan

Businessmen last week took the initiative in plans for rebuilding downtown Rochester, N. Y. Two major retailers—McCurdy & Co., department store, and B. Forman Co., a large specialty store—set up Midtown Holdings Corp. to carry out a privately financed \$15-million "Midtown Plaza."

The Rochester area has more than its share of suburban shopping centers. Merchants decided the only way to hold their customers is to make the central city more convenient and attractive.

Private financing will cover an 18-story office building, with hotel facilities on the top floors; a two-level heated

and air-conditioned arcade flanked by 25 or 30 stores; a union bus terminal, and expansion of the two sponsoring stores. Victor Gruen Associates of Los Angeles have planned the project.

Sponsors of the plan asked the city officials to cooperate by carrying out a 30-year-old plan to extend some downtown streets, including the opening of a new major business thoroughfare, and by building a 2,000-car underground parking garage. The city's cost would be between \$6-million and \$7-million.

City officials indicated that the scheme fits into their own plans and that they will go along with it.

The project would add about \$8-million in assessed valuation, help clear up a worsening traffic situation, give the city its first major new office building in at least 30 years. Completion is scheduled for 1961.

• • •

Atlantic Coast Line, Seaboard Air Line Discuss Merging Their 9,400 Mi. of Tracks

The Atlantic Coast Line RR and the Seaboard Air Line RR this week had joined the long list of major railroads considering the benefits of merging.

Presidents of the two roads announced that preliminary talks indicated that "tangible economies and greater efficiency" might be achieved.

Between them, the two roads operate 9,400 mi. of track. Each had gross revenues topping \$163-million last year. On this, the Seaboard earned \$18.5-million, the Coast Line \$10.4-million. They have long been bitter rivals for seaboard traffic between Virginia and Florida.

Announcement of the merger talks made no mention of the 6,000-mi. Louisville & Nashville RR, in which the Coast Line has a 33.8% stock interest.

Warner-Lambert Pharmaceutical Co., itself an amalgam of assorted companies, is about to become a part of R. J. Reynolds Tobacco Co. Merger talks, going on since mid-August, have ironed out almost all difficulties in the proposed 1-for-1 stock exchange.

Reynolds says that Warner-Lambert's overseas experience will help its own marketing, and that W-L's ethical and proprietary drugs, cosmetics, and toiletries will add a broad consumer market to its own cigarettes and tobaccos.

• • •

Chrysler Shakes Up Airtemp Division; New Top Men Seek Wider Markets

Chrysler Corp. has shaken up its always-profitable Airtemp division with the departure of C. E. Buchholzer, Airtemp president, and three of his chief lieutenants. Their places will be taken by Paul M. Augenstein, who had headed GE's room air conditioner operations, and a crew of other outside executives.

Airtemp, which already holds 5% of the home air conditioner market and 10% of small commercial units, will seek new and bigger markets. The dealer network will be expanded and the product line broadened.

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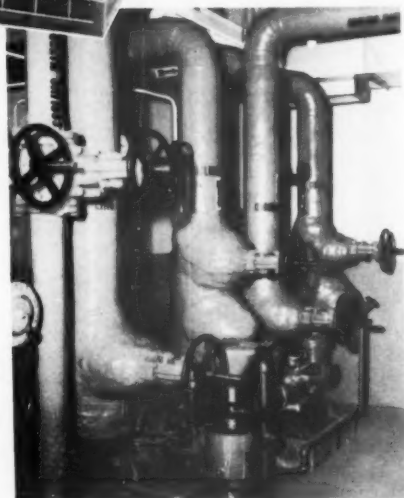
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WASHINGTON OUTLOOK

WASHINGTON
BUREAU
OCT. 4, 1958



Keep your eye on the men around Pres. Eisenhower—those being recruited to fill the gap left by Sherman Adams' resignation. The situation at the White House (BW—Sep. 27 '58, p. 43) still is changing. Some top man will emerge, though none will become as strong as Adams was before the Goldfine episode.

Gen. Wilton B. Persons, now the Assistant to the President, won't be the "no sayer" Adams was. It isn't his disposition, and he is physically frail, without the stamina of Adams. Persons will continue to be the President's contact man; he gets along with both Democrats and Republicans in Congress.

Bryce N. Harlow, Deputy Assistant for Congressional Affairs, fits his new job almost perfectly. He is a scholar of the legislative system, spent years on Capitol Hill as secretary to Rep. Disney of Oklahoma and as staff man for the House Armed Services Committee.

Robert E. Merriam, Deputy for Inter-Departmental Affairs, will concentrate on budgetary matters; ride herd on spending policies of the civilian agencies.

Fred C. Scribner, Jr., will be a man to watch if he transfers over to the White House from the Treasury Dept., where he is now Under Secretary. Scribner is a Maine politician, hard-headed, closed-mouthed, and runs things with a hand similar to Adams'. He has excellent relations with the GOP National Committee. A combination of administrator and political realist could combine to make him powerful. Added note: Scribner is fiscally a budget-balancer, frowns on some of Vice-Pres. Nixon's Modern Republican ideas.

—•—

Voters are still apathetic about the coming election. The lack of enthusiasm across the country has Republican and Democratic leaders worried. They see the stakes as unusually high this year. Both sides say that not only will national policies for the next two years be affected by the results in November, but almost certainly the outcome of the 1960 race for the White House as well. Political leaders want big votes this year.

Presidential hopefuls need big margins to show 1960 convention delegates just how strong they are—even the candidates with little opposition.

Sen. John Kennedy (D-Mass.), running for reelection, wants to win by at least 500,000 over the little-known Republican, Vincent J. Celeste. Kennedy is campaigning for President already, spending as much time campaigning outside Massachusetts as at home.

Gov. Mennen Williams (D-Mich.) wants to make his sixth race for the State House the biggest. His supporters also are shooting for a half-million majority. With that, Williams will go to the convention as a strong contender.

Sen. Stuart Symington (D-Mo.), another Presidential aspirant, has an easy race for reelection, against Miss Hazel Palmer, a newcomer to national politics. Symington's supporters want and expect an overwhelming victory, but they fear even so their man won't get much of a lift for the nomination. This is a case where a candidate would benefit from stronger opposition.

The California election is the most crucial. The future of Vice-Pres. Nixon as well as Sen. William F. Knowland will be affected; if Knowland wins, he will threaten Nixon's lock on the nomination. If Knowland loses, Nixon will get control of the California delegation.

Democrat Pat Brown will earn national prestige if he beats Knowland.

WASHINGTON OUTLOOK (Continued)

WASHINGTON
BUREAU
OCT. 4, 1958

Brown would go to the convention with the second-biggest delegation, smaller only than New York, in his pocket. He would have a big say in making the ticket.

So the worries over voter apathy are real. Nixon is trying to step up the pace of campaigning with his hard talk, attacking ex-Pres. Truman and the New Deal. He wants to get the voters' dander up. Eisenhower will stump more than previously planned, starting next week in New York.

Campaign money is slow coming in. That is hurting, because now is the time the political leaders decide which races are worth pouring the money into. Hundreds of thousands of dollars usually go out from headquarters—to the Congressional districts where chances are best, to Senate races where the party smells a victory.

But national party purses are empty. The Republican and Democratic National Committees are having a hard time meeting even operating expenses; some bills that are due are going unpaid for a while. So candidates are probably going to have to go it mostly alone.

The public relations campaigns for political giving don't work, say the pros. Dollars-for-Democrats, and give-a-buck drives bring in far too little. Party leaders complain that contributors caught first by these drives get away with making smaller donations than they would give when the pros put the pressure on.

—●—
James K. Vardaman, Jr., has resigned as a member of the Federal Reserve Board effective Dec. 1. Vardaman, a close friend of Pres. Truman, was Truman's first nomination to the board in 1946. There has been no speculation yet about a successor.

—●—
Two Commerce Dept. Under Secretaryships are vacant. Walter Williams, an original Citizens for Eisenhower man, is going back to Washington state. Louis S. Rothschild, Under Secretary for Transportation, resigned after he failed to win appointment as administrator of the new Federal Aviation Agency (page 27).

—●—
The Pentagon is overhauling defense procurement regulations. Changes affecting contractors will come out piecemeal, starting any day now. The most important revisions will affect a contractor's proprietary rights to trade secrets, patents, and so on. Contractors now have only limited rights and have been pleading for more protection.

Allowable expenses of a contractor will be detailed in a regulation due out later this year. The government says it will be more liberal; industry spokesmen fear that the new regulation will, in fact, be tougher.

The Air Force is trying to force prime contractors to farm out more work. It plans to have contractors submit "make or buy" lists with original bids, explaining how much they intend to subcontract. Then the Air Force will demand that the subcontracting be adhered to unless the military approves changes. The drive is expected to help quiet demands of congressmen who complain that small business is not getting enough of the military dollar.

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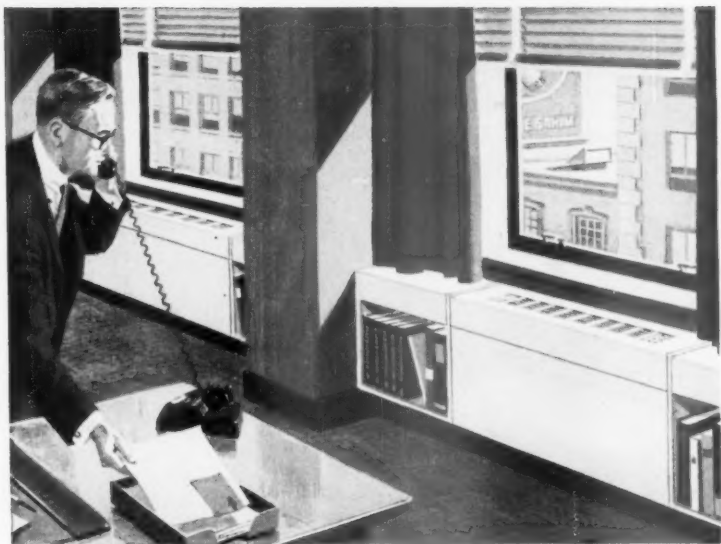
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For exterior offices, a Carrier Weathermaster* System using Modular Weathermaster units like these provides superb year-round air conditioning with individual dial control. These attractive, prefabricated cabinets may be floor mounted or wall hung. And for low windows, foot-high models are also available.

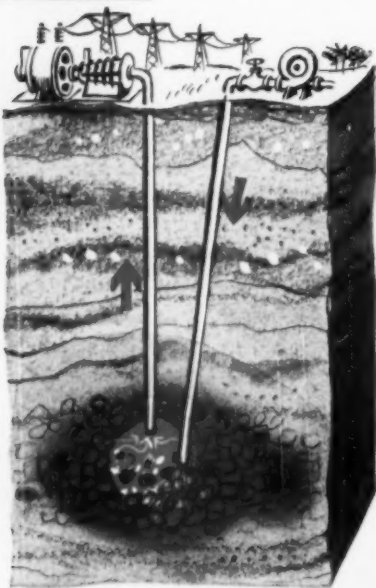
For interior offices, the new Carrier All-Air Weathermaster System may cost less to install. Terminal units which deliver heating and cooling may be located in the corridor and supply conditioned air through the wall (as shown), or installed in prefabricated cabinets on exterior walls. No water or drain pipes required. Five models to meet all conditions.



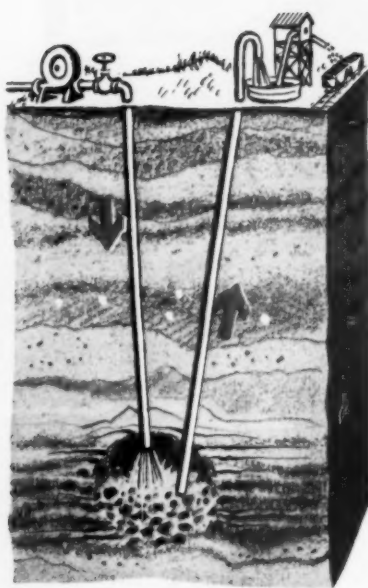
For larger areas, a conventional duct system using the new Carrier Central Station Weathermaker* air conditions cafeterias, auditoriums or large general offices. These flexible units are easy to locate out of the conditioned space — in a basement, under stairs or in a service area. They provide for year-round comfort.

*Reg. U.S. Pat. Off.

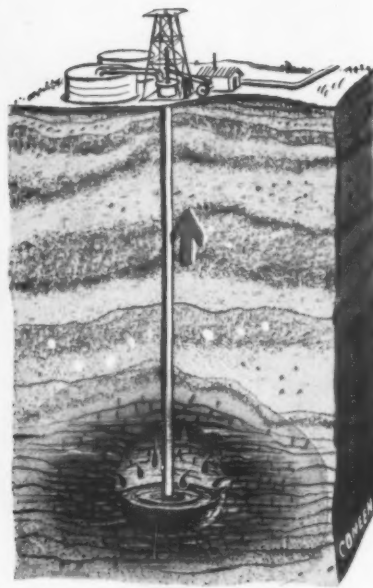
RESEARCH



POWER—Tremendous heat of underground blast could be converted to energy for power.



ORE—Powerful blast, pulverizing entire ore body, could token a new way of mining.



OIL—Heat of blast could make oil flow from shale, or from "exhausted" deposits.

Atom Blasts for Industry's Use

Though the idea of using atomic energy as a source of power for industry is older even than the atom bomb, it's still a startling idea that anyone in industry should think seriously of making use of the bomb itself—hitherto regarded as a thing of horror and dire military necessity—for peaceful purposes.

Even six months ago, when the Atomic Energy Commission began talking up the idea, most U.S. industrial research directors viewed any peacetime use of the bomb itself as something for the far-off future, something to be mildly curious about but not to get very excited about at the moment.

Today, all that has changed. Industry is generally enthusiastic about the possibilities of a number of specific industrial uses for the atom bomb (drawings, above). It's still cautious about the economics of these applications, but it's eager to get going on broad research and development to pin down what can be done.

Industry's new-found enthusiasm, however, seems destined to disappointment—or at least a delay. There's little doubt, as of this moment, that any early plans for developing atom bombs for industrial use have fallen victim to the cold war and the international jockeying over banning of nuclear tests (BW—Sep.27'58,p56). The AEC is currently delaying negotiations with over a dozen companies pending the

opening of the nuclear ban conference in Geneva, Oct. 31.

The companies, eager to get major research projects going, are champing at the bit, confused and annoyed at AEC's about-face.

• **Industry's Spur**—But what brought on industry's sudden excess of enthusiasm in the peaceful possibilities of the bomb? It's a direct consequence of a single underground bomb test in Nevada on Sept. 19 last year, which did not begin to reveal its possibilities until AEC announced the results six months later (BW—Mar.22'58,p27). Even then, industry was slow to catch on to the import of that test—the so-called Test Rainier.

After the test, however, AEC set up a project—named, in a biblical mood, Project Plowshare, and carried on by researchers at the University of California's Livermore Laboratory—for further study of underground tests. Industry, encouraged this summer by AEC and representatives of the project, caught the fever—and now wants to move as fast as possible to prove out what seem to be the more obvious uses for nuclear blasting.

• **What Rainier Did**—The Rainier test was, quite simply, an A-bomb exploded 900 ft. below the surface of a Nevada mesa—originally, to determine if weapons tests could be carried out without dangerous fallout.

A self-sealing tunnel was dug, hori-

zontally, 1,600 ft. into the mesa's side, curving back on itself, and ending in a room 6 ft. by 7 ft. The A-bomb was placed in this room, with sandbags blocking the tunnel's entrance. Scientists figured the bomb's explosion would force rock into the first leg of the tunnel, thus trapping all radiation. But they weren't sure enough to use a big bomb; they chose one of the smallest available—a 1.7-kiloton bomb, the equivalent of 1,700 tons of TNT.

Results—when they finally became known—exceeded all expectations. At the time, observers heard a muffled explosion, but there was no flash, no mushroom cloud. When protected observers went in, they found no fallout radioactivity even in the bomb tunnel, which was still passable up to 200 ft. from the bomb chamber.

It took until last March, with drillers probing the mesa from end to end, to figure out the full story. What happened, authorities now say, was that when the bomb exploded, a fantastic pressure—of 6-million atmospheres—was built up in the underground chamber. This stretched the chamber's walls into a 110-ft. spherical cavity, lined with a 4-in.-thick bubble of molten lava. When the rock would yield no further, the bomb's energy was transferred to it as heat. The lava bubble congealed, becoming hard and glassy.

As pressure in the cavity gradually decreased, the glass bubble collapsed



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Their problem was how to speed up strapping at the heads of 15 different conveyors, leading to their carloading operation.

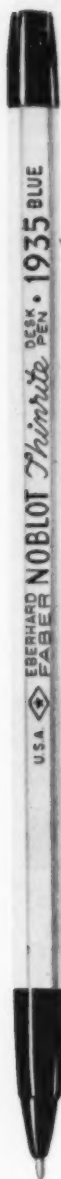
Caterpillar's Acme Idea Man suggested the F1 machines as having the strapping speed and versatility to solve their problem because the F1 handles different sizes and types of containers interchangeably. Caterpillar engineers added wheels to give the F1's mobility. The machines are wheeled from one conveyor head to another, as needed. The boxes containing parts are lifted onto the machines' conveyors with an overhead chain hoist. Regardless of box size, the F1 tightens the strapping to a uniform, pre-determined tension, cuts it without waste and double spot welds the ends together.

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like an eggshell under the mountain's weight, filling the cavity with 200,000 tons of broken rock. Nearby, the force of the explosion pulverized another 500,000 tons of rock. Even more important: All the bomb's radioactive fallout had been trapped within the molten lava, now congealed and broken into insoluble glass fragments lying in a 10-ft.-thick bed at the bottom of the cavity.

• **Implications**—Implications to industry, of the results of Rainier became unmistakably clear.

If the radioactive particles of an underground nuclear blast can be safely trapped, this opens up a new way of mining. Such companies as Kennecott Copper Corp. are eager to investigate the possibilities. Rainier, a baby bomb, pulverized 700,000 tons of rock. With larger nuclear blasts, it might be possible to pulverize an entire ore body, then simply leach its valuable elements out to the surface by pumping in water and bringing it up carrying minerals in solution or suspension, much in the way sulphur is now mined by the Frasch process.

But first, scientists must find out how the idea will work on different types of rock formations. The rock in the Nevada mesa was porous, a glassy volcanic type called tuff. Before mining companies can properly evaluate the possibilities for their own mining operations, they will have to try small test nuclear blasts in their own rock deposits.

• **Oil From Shale**—For oil companies, the big interest is in the heat caused by underground nuclear explosions. Oil, in tremendous quantities, exists in this country in the form of shale, tar sands, and "exhausted" deposits. An underground nuclear explosion (preferably an H-bomb explosion, with minimum radioactive contamination) could, oil researchers reason, generate such terrific heat that the oil trapped in these deposits, normally too difficult to be worked, would flow freely.

All the major oil companies, according to one AEC spokesman, have, in recent months, been knocking at AEC's door with proposals in hand to run tests along this line. One of them, Richfield Oil Corp., is even reported to have been in touch with the Canadian government and the British AEC with plans for a test shot in its Athabasca Lake tar sand holdings in northern Canada.

Tar sand and shale rock up until now has not been a profitable mining operation. It costs too much to mine the shale, heat it to extract its oil, and then dispose of the vast quantity of residue rock. A hydrogen explosion under a shale rock deposit might avoid a major part of this expense. It would, in a manner of speaking, "cook" the rock in place, freeing the oil for conventional pumping methods.



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Since an estimated 700-billion barrels of oil are locked up in shale in this country, the possibilities here are enormous.

- **"Exhausted" Deposits**—Continental Oil Co. is chiefly interested in a related use for underground nuclear explosions. It sees a big potential in using the heat of a nuclear explosion to free for easy pumping the oil (generally about 40%-50%) that remains in an "exhausted" deposit. This oil, like that in tar sand, is too viscous to remove economically under conventional systems. To test the theory that the heat of a nuclear explosion would solve this problem Conoco has been looking over its reservoirs with the idea of offering one to AEC for test purposes.

- **Underground Power**—The power industry, and all its associated power equipment producers, have also been churned up by the heat prospects of underground nuclear explosions. Suspicion has been growing in recent months that controlled fusion power is a lot further away than had been originally calculated (BW—Aug. 16 '58, p. 56).

But underground hydrogen explosions as a source of power might be another matter entirely. The blast of the small underground A-bomb in Nevada last year left rock temperatures still as high as 194F three months after the explosion. All that might be needed to convert this heat to a usable form of energy might be a transfer agent—steam, carbon dioxide, or even nitrogen.

This could be bubbled through the hot, pulverized rock, led to the surface to drive a turbogenerator, then recycled back underground. If the explosion were set off in a deposit that would naturally provide its own transfer agent (like a salt deposit that would become molten), the result might be a highly efficient form of power requiring very little capital outlay.

- **Chemical Mining**—Chemical companies see yet another possibility in developing underground nuclear mining techniques. Some chemical raw materials, they point out, might someday be produced very cheaply—underground—by using a nuclear explosion to heat the material in which they are found to its decomposition point. For example, one single shot in a limestone deposit—provided the radiation it caused could be caught in a lava bubble—might produce calcium oxide and carbon dioxide, both valuable sales items.

The production of radioactive isotopes—used in growing quantity by both chemical and pharmaceutical companies—might also be facilitated by nuclear underground explosions. Today these isotopes—used in making everything from medicinals to insecticides—are produced in small lots in reactors, at a relatively high cost. If a shield material could be devised to catch them



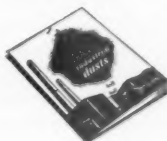
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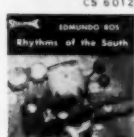
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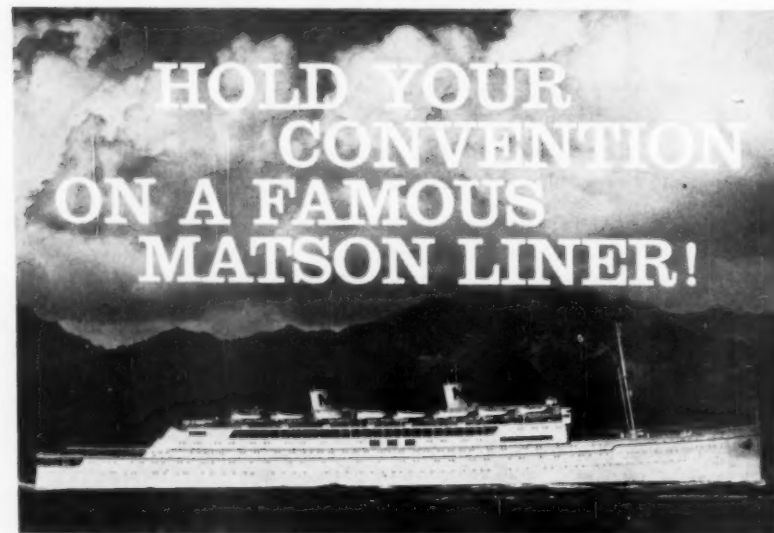


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as they're spewed forth, they might be turned out very cheaply underground.

• **Underground Reservoirs**—One other possibility—not so intriguing to individual companies as to public authorities—is the use of underground blasting to create "aquifers," or deep underground water storage reservoirs.

The idea goes like this: The bomb, set off beneath a water course, would create a deep opening in the stream, in which spring run-off water would collect. This water would gradually seep out of its cavity through subsurface rock seams to drier regions.

The one obvious demerit of the idea is contamination of the water by radioactivity. But the Rainier test shot seems to point a way to avoid this. By exploding the bomb at precisely the right distance below the river bed, it should be possible to trap all the radiation in the lava bubble before the cave-in occurred, in such a way that the water would not reach it.

• **Clampdown**—But with the AEC's clampdown on negotiations with the companies, resulting from the international ramifications of nuclear test bans, all these ideas must await a more favorable future climate. Some even more advanced projects, which had reached the stage of scheduling of tests, have also been shunted aside.

• One of these involved the carving out of artificial harbors and channels. AEC had actually scheduled for late 1960 a harbor blast project in the rock and ice of northwestern Alaska, to open up the area for mineral exploration; but according to AEC Commissioner Willard F. Libby, this has now been called off.

• An underground shot planned for next year in a salt bed area southeast of Carlsbad, N. M.—and announced only last August—also seems to be out of the picture now. Its aim was to have been to study the practicability of producing power and isotopes from an underground nuclear blast.

Last week, too, a joint AEC-oil industry meeting scheduled for Dallas in October was abruptly canceled.

• **Industry Pressure**—Industry is sure to be more critical if the New Mexico salt bed project is called off than over the Alaska harbor blast. For one thing, such companies as Gulf Oil, Westinghouse, Dow, Kennecott, Richfield Oil, Conoco, the Texas Co., and Atlantic Refining can't go ahead with research projects without AEC help. Some 14 companies have voluntarily gone to Project Plowshare, at AEC's invitation, to offer facilities and joint research plans.

With industrial researchers raring to go, there's sure to be strong industry support for AEC's own pressure to exempt underground nuclear blasting for peaceful purposes from any over-all nuclear ban agreed on at Geneva. **END**



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Manufacturers Step Up Dealer Relations As Appliance Market Takes on New Life

The appliance industry is riding the upturn that got under way a couple of months ago (BW—Sep.13'58,p49). Sales of home laundry appliances—washers, driers, and combinations—are up 25% for August over July, American Home Laundry Manufacturers Assn. reports. July sales were 3% over June.

Judson S. Sayre, president of the Norge Div. of Borg-Warner Corp., reports more than \$30-million in home appliance orders were booked during his recent cross country tour. Sayre and other executives visited 87 distributors in seven cities. He predicts Norge third-quarter sales will run 10% ahead of the same quarter last year.

Meantime, Westinghouse Electric Corp. is sending out teams headed by Chris J. Witting, vice-president for consumer products, to spread the good word among dealers. Next week, nearly 100 executives will go to all parts of the country to tell dealers that (1) the appliance recession is over; (2) the "whys" of Westinghouse's recent overhaul of its consumer products division; and (3) how dealers can tie-in with the kickoff of Westinghouse's \$11.5-million Desilu TV show package.

. . .

California Antitrust Suit Seeks to End Merchandizing by Major Oil Companies

The government's long-running antitrust suit charging that seven major oil companies control the West Coast oil industry is entering a new phase. In a pre-trial plea last week, government lawyers spelled out what they want to happen should the court rule in their favor.

The plea is part of the precedent-setting suit filed in Los Angeles District Court eight years ago against seven major West Coast oil companies—Standard Oil Co. of California, Shell Oil Co., Texas Co., Richfield Oil Corp., General Petroleum Corp., Tide Water Associated Oil Co., Union Oil Co. of California—and a trade association, the Conservation Committee of California Oil Producers (BW—May20'50,p25). Basically the suit attempts to leave the seven companies their crude oil supplies, and certain transportation facilities but sever them from wholesaling and retailing activities. If successful, the government is expected to use the suit as a model to attack other oil producers around the country.

The government is asking the court to force defendant companies to divest themselves over a five-year period of all interest in all service stations or other retail outlets now owned, to enjoin them from acquiring any further interests, from operating, managing or controlling any stations, and from engaging in the business of selling refined petroleum products. It further asks that future supplying agreements be in writing and be for a three-year period unless contract violations occur.

Oil companies have until Oct. 7 to file replies. Another

MORE NEWS ABOUT MARKETING ON:

- P. 57 Worthington Corp. tries on the marketing concept.

hearing is set for Oct. 21, with the trial itself scheduled for Nov. 12. Both sides believe the judge is using pre-trial statements and clarifications to simplify the case—perhaps with the idea of reaching some agreements—before the trial.

. . .

Auto Traffic Yields to Fashion Show In Experiment to Help Downtown Stores

The Boston Real Estate Board extended its experimenting with downtown shopping malls to help stem the tide that has swept five important downtown stores



out of business (BW—Feb.15'58,p71). For two weeks running, two parallel one-block streets were closed to automobile traffic on alternate days around the noon hour. Merchants in the streets put out boxes for trees and shrubs, and hung colored canopies overhead. Models wearing fall fashions paraded along the streets. Despite rain and religious holidays during one of the weeks, the board con-

siders the experiment successful. Backers of the plan tried to have it made permanent but city authorities would agree only to a four-week extension.

. . .

Wisconsin May Curtail Car Warranties, Put Them Under State Regulation

The practice of issuing warranties on used cars may be drastically curtailed in Wisconsin following a ruling by the state attorney general that such plans are essentially insurance policies, and subject to regulation by the state Insurance Dept.

The ruling affects companies that issue warranties under which the used car buyer or dealers pay a fee guaranteeing some of the car's parts or protecting the buyer from costs of repair—usually for a period of one year.

Companies that issue the warranties contend they are maintenance contracts. But Insurance Commissioner Paul J. Rogan asked for an interpretation because he felt "there were some abuses and the law wasn't clear." Atty. Gen. Stewart G. Honeck then ruled that the purpose of such agreements was to protect the buyer against the risk of future expense.

According to Rogan, this means that warranty companies must reorganize like insurance companies. He doubts that many companies will be willing to do this.

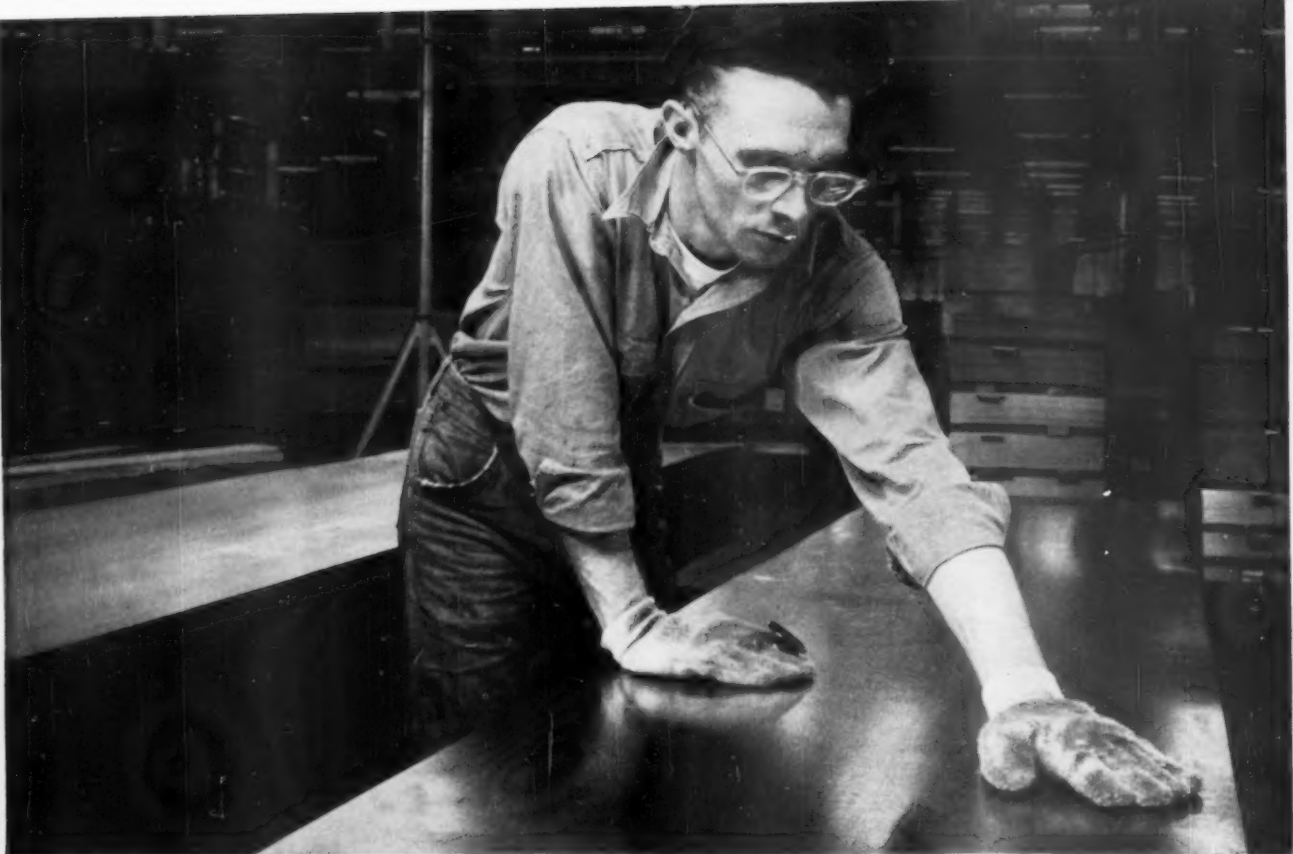


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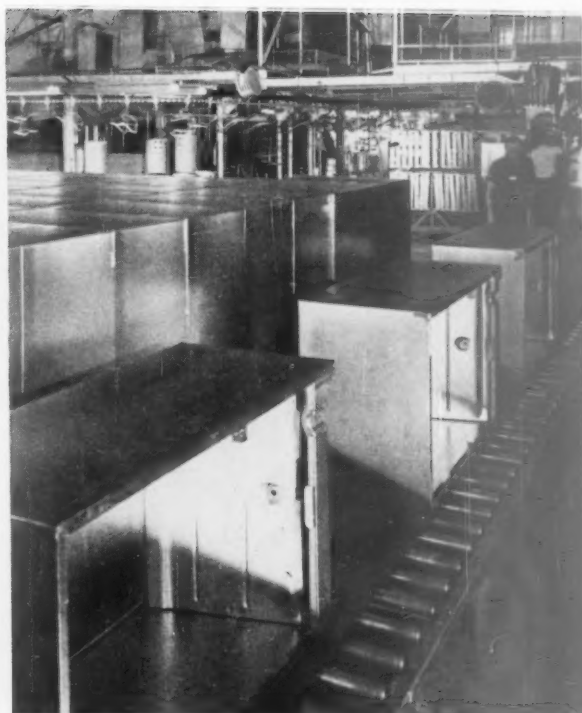
The 3 F's in Pittsburgh Steel's Sheets Keep Automated Lines Rolling at Westinghouse

STEEL that is free of flaws is vital to the gleaming painted surface of finished refrigerator.





COMPLETELY FORMED by automated equipment, refrigerator's shell then moves to welding operation.



3 F's—Flatness, Finish, Formability—show up here as outer shells await painting.

"If we made 75 a day then, we were really going. Now, we're geared up here to make more than twice that in an hour."

That quote came from a veteran production man at Westinghouse Electric's huge and humming Appliance Division plant near Columbus, Ohio.

The difference between daily production of 75 refrigerators (in 1927) and today's rate is explained by just one word—automation.

Production of the refrigerator's steel shell is automated completely through welding. This includes some 15 distinct operations required to convert smooth, precisely dimensioned cold rolled sheet steel into the outer shell of a home refrigerator.

Part of Westinghouse's ability to use advanced production methods is due to the steel available from suppliers like Pittsburgh Steel Company.

H. L. Johnson, the plant's purchasing agent, and Joseph A. Scattoloni, staff supervisor of manufacturing engineering, agree that automation places special responsibilities on their steel suppliers. As Mr. Scattoloni puts it:

"Westinghouse built its reputation on quality products, but we can't build quality when it isn't in the materials to start with."

Pittsburgh Steel knows—even without automation to consider—that sheet going into appliances must have the Three F's—Flatness, Finish and Formability. Add requirements of automation and you need

these same qualities, but more so. Here's why they're so vital.

• **Dimensional accuracy**—A variation of as little as .005 inch could compound into a total error large enough to interrupt production, scrap a shell or both.

To produce a shell, automatic equipment has to make six 90-degree bends, as well as a smaller seventh one. If the sheet isn't flat or if it lacks uniform temper, bends can be thrown off.

Once bends are made, the sheets can't be allowed to spring back. Over-bending, too, will scrap a shell. That gets costly when you consider that the shell—at about 94 pounds—is the largest single item in the 140-150 pounds of steel per finished refrigerator.

If the sheet isn't flat, waviness will show up glaringly in the finished shell, or it could cause an "oil-canning" effect. This poses a threat to the painted surface.

If camber isn't within specific limits, sheets can't be held properly during blanking and punching. Holes

creep beyond tolerances, ultimately scrapping the shell.

• **Surface finish**—Since the shell must take a uniform and critical painting, surface finish is all-important.

Rust, scale, piping, pits—singly, or in combination—can ruin a shell, so Pittsburgh Steel knows why flaw-free steel is a must.

• **Formability**—Another name for shapeliness—is more vital in automatic forming than in a hand operation. And strain marks resulting from improperly bent sheet will require either complete scrapping or correction by expensive hand machine methods.

Westinghouse stakes its reputation on quality of its products. A supplier who can provide Westinghouse with this quality can meet your needs, too. The full range of hot-and-cold rolled sheet and strip, produced exactly on the steel industry's finest mill equipment—is as close as your telephone. Call any of the Pittsburgh Steel Company district sales offices listed here. Do it today!

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Grant Building

Pittsburgh 30, Pa.



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Dallas

Dayton
Detroit
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Thousand mile assembly line

Specially fitted with racks to hold automobile sub-assemblies, this car, like many others, is an important part of the automobile industry's efficient "assembly line".

Railroad cars loaded with bodies, frames, engines, transmissions, differentials and other units have to come rolling into the far-away assembly plants to fit into precise production schedules.

Serving many of the country's automotive centers, Chesapeake and Ohio handles much of this "assembly line" traffic. And C&O is particularly well equipped for such exacting service because shippers can rely on its all-teletype car reporting system.

C&O's Car Location Information Center — CLIC

for short — teletypes reports of every car movement anywhere on the C&O to all traffic offices concerned.

This means that C&O's Detroit freight traffic office, for example, has up-to-the-minute reports on loaded cars as they leave the factories. And, wherever the destination plants may be located, C&O's traffic office in that area is given the same prompt information about the shipment. With CLIC service, assembly lines starting in Michigan are efficiently extended hundreds or thousands of miles to assembly plants. There, your new automobile is completed and driven away under its own power.

Route your shipment C&O. With CLIC, you can watch it move on "assembly line" schedule.



A booklet describing CLIC is yours for the asking. Just write:

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3801 TERMINAL TOWER, CLEVELAND 1, OHIO

S H I P C & O . . . A N D W A T C H I T G O !

Shifting the Stress to Marketing

Worthington Corp. has long made heavy machinery to special order. Now it needs—and gets—a new marketing approach to selling standardized products.

Last week's announcement by Worthington Corp. of a change in its corporate insignia was simply the acknowledgment that times have changed—even for a producer of heavy capital equipment—and changed to the point where you can no longer assume (1) all the customers you can reach know you and (2) the products you make are what the customers want.

Thus, as much as anything, Worthington's fresh corporate identification—a stylized W in place of its traditional spread-eagle wings—is symbolic of a series of changes that have come into sharper focus only this year.

These changes, for the most part, have all been directed by the top staff toward shifting operating management's viewpoint from the factory—a natural inclination by the nature of Worthington's business—to the marketplace. Worthington's marketplace is just about every kind of industry you can think of. Its line of pumps, compressors, turbines, engines cuts across every field.

- **Marketing Concept**—In essence, the company is tackling the difficult job of making practical sense out of the somewhat faddish "marketing concept" that business hears so much about today.

To Walther H. Feldmann, Worthington's president, there is nothing quite so important in today's business climate as marketing—but marketing, he thinks, all boils down simply to providing "what's best for the customer." His marketing vice-president, Thomas J. Kehane, adds: "The so-called marketing concept is just a bunch of words until it comes out in performance."

To translate the words into performance, Worthington has taken two tacks:

- A companywide reorganization that groups related products.

- An educational program designed to instill the idea of marketing—with all its implications—from the top down at least as far as the foreman in the shop.

I. Organization

As in a host of other companies, particularly in the postwar boom, Worthington's business outgrew its organization. The highly centralized system that worked well in a job-shop atmosphere no longer worked with broader diversification among products, along with mass



PRES. WALTHER FELDMANN of Worthington wants his operating managers to be marketing-minded. "Marketing," he says, "is more a way of thinking than of organizing."

production and the ever more intense competition that comes to a company that's pushing toward the \$200-million mark in sales.

"There are advantages in small size," says Feldmann, who grew up in small companies. That's especially true, he thinks, in marketing. "All your brass is in the same small office, 50 feet by 50 feet. It brings the work close together, and everybody is thinking of the customer. You can yell, 'Hey, you guys, come here,' and the matter is settled."

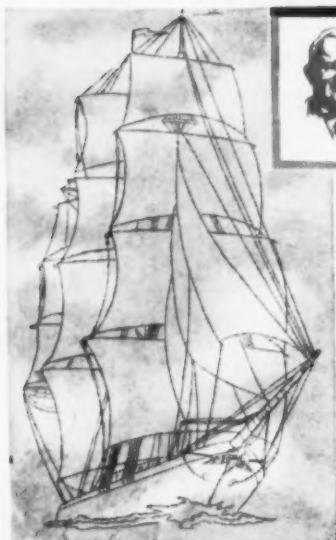
That kind of fast-moving, customer-minded operation is something that a big company has to work at.

- **Place in Planning**—In Feldmann's mind, organization planning must center on marketing, in its broadest meaning, even for the kind of heavily engi-

neered business that Worthington is in.

This became even more true after the Korean War as Worthington strove, under Chmn. Hobart C. Ramsey, toward a greater standardization of its products. Formerly, each division or plant worked from separate drawings, making fairly individualized equipment. Today, the process of standardization has reached the point where 40% of the company's business comes from what it terms its standardized products. Selling from the shelf has become an important part of the company's volume.

- **Sales Force**—Partly in recognition of this marketing fact of life, Worthington this year reorganized its marketing system. Previously, district offices, under an over-all manager, handled the full line of Worthington's wide range



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FORMERLY THE COLD METAL PRODUCTS COMPANY

**"... Worthington has been
selling its gear-to-the-cus-
tomer program to the whole
organization . . ."**

STORY starts on p. 57

of industrial products. Each salesman (who was also a highly trained engineer) sold heavy engineering products as well as standardized \$100 pumps.

"It was a waste of manpower," says Feldmann of this use of sales engineers' valuable time.

Besides that, the kind of selling necessary for standard shelf items sold through distributors is vastly different from large direct-selling installations. The standard items making up a good portion of Worthington's business were sometimes getting only minor attention from the district offices. On the other hand, in order to meet quotas, sales engineers had to spend their efforts pushing smaller items, thus reducing the time they had available for big-job selling.

So Worthington created a new group of resale managers who handle standard products that are funneled through distributors and who report directly to a general manager of the Resale Sales Dept. Unlike their counterparts in the direct-selling organization, the resale group has been picked more for merchandising than for engineering talents. They've been trained to work with distributors to help them solve their problems, and to develop trading territories.

This sales pattern does more than meet Worthington's needs. It is also tailored to fit the way most of the company's customers operate—with top management involved in direct purchase of engineered products, the operating levels in buying Worthington's standard resale products.

II. Education in Company

Right along with this reorganization to meet new market and product conditions, Worthington for the past four years has been selling the idea of marketing—what it calls its gear-to-the-customer program—to the whole organization.

In that time, it has added marketing research as a centralized staff function, has recently created a product and marketing planning group, and has enlarged the centralized advertising and sales promotion department it set up in 1952.

• **Better Understanding**—This department, under M. E. Ziegenhagen, has carried the message of coordinated marketing into the division levels. This fall it took on the more encompassing name of Advertising & Marketing Pro-

THE TRADING STAMP:

Where stamp use
is greatest, food prices
have risen the least

INFLATIONARY TRENDS, growing despite a business recession, continue to make rising food prices a cause for concern among consumers. Recent broadened studies continue to give assurance that the trading stamp plays no part in this trend.

IN FACT, these new studies strengthen the conclusions reached by university marketing experts a year ago. As in previous studies, no evidence was found that stamp stores, as a class, charge higher prices than non-stamp stores. Furthermore, from the U.S. Government Bureau of Labor Statistics Index, augmented by reports of the National Industrial Conference Board, it was found that food prices have risen least in cities where stamp use is greatest.

Between 1953 and 1957, food prices rose 1.2% for all U.S. cities; the same prices rose 1.65% in the cities where less than 50% of the supermarkets had adopted trading stamps.

During the same period, in the cities where more than 50% of the supermarkets had adopted stamps, food prices rose only 0.75%.

These comparisons are additional, and the most recent, evidence that trading stamps, by increasing competitive pressures, have operated to hold food price levels down. It would seem, therefore, that families living in "stamp cities" can thank trading stamps for playing a part in the lower cost of living they enjoy.

* * *

REFERENCES: "Who Profits from Trading Stamps?", Dr. Eugene R. Beem, *Harvard Business Review*, Nov.-Dec., 1957.

"Trading Stamp Practice and Pricing Policy." Dr. Albert Haring and Dr. Wallace O. Yoder, Marketing Department, School of Business, Indiana University.

A copy of "Food Price Trends In Cities of Varying Trading Stamp Activity" will be sent upon request. Write The Sperry and Hutchinson Company, Department "F", 114 Fifth Avenue, New York 11, New York.

*This message is one of a series presented for your information by
THE SPERRY AND HUTCHINSON COMPANY which pioneered 62 years ago in the movement
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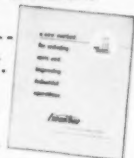
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In Canada—331 Bartlett Ave., Toronto

"... the task forces can cover everything from new product planning to cutting marketing costs..."

STORY starts on p. 57

motion Dept., with its internal selling job spelled out: "to help create a better understanding of marketing principles and practices" by working with division personnel.

"We are striving hard," says Ziegenhagen, "to keep marketing from being the marketing manager's function. It's the division man's job. We like to call it the do-it-yourself marketing concept."

Under its advertising and marketing promotion setup, Worthington assigns account supervisors to specific product divisions to work out over-all marketing plans. Calling regularly on their "accounts," the central staff personnel get a close idea of what the division problems are. Rather than tacking promotional and advertising plans on at the end of planning, they can get into the process at the earliest stages. In effect, they become messengers of the marketing concept.

• **Task Forces**—An outgrowth of this system is an array of marketing teams or task forces, formed with central staff specialists from the Harrison (N.J.) headquarters and with division people to carry out specific projects. In each case, it's the division that sponsors the project.

These task forces—which Worthington has been using mostly to get across the idea that marketing has to be uppermost in the minds of the operating division people—can cover everything from new product planning to cutting marketing costs. In one case, for instance, the advertising and promotion people were asked to help overcome lagging sales in engine compressors. By the time the project had been carried out, everybody from the president down to factory workers (who participated in a "Power Fair") was involved.

In another case, a request by the standard pump division for headquarters to justify its allocation of district office marketing costs ended in a full-blown task force that changed all phases of the business—from paper work to shelf storage of parts.

"The net result," says Vice-Pres. Kehane, "was a saving even greater at the division level than in the district offices."

It's Worthington's hope that the task force device will succeed in making marketing an everyday way of business for the divisions.

"Marketing," says Feldmann "is more a way of thinking than it is of organizing." **END**

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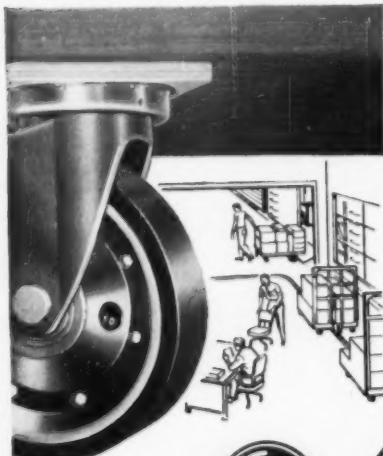
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NEW PRODUCTS



SIMPLE BEATERS, made of polyethylene beads strung on spring wire, are on Eureka-Williams Corp.'s new canister vacuum cleaner.

Vacuums Give Rugs a Beating

Canister vacuum cleaners—the chubby tanks that follow along at the end of a hose—have a new twist that may overcome one of their biggest failings. Most of this year's models will sport attachments that beat the rug as well as suck up the dirt—a trick previously limited to the upright type of vacuum.

After nearly 30 years of wrestling with this problem, manufacturers have come up with not one but three new techniques. The latest and simplest is Eureka Williams Corp.'s new beater head pictured above. Three strings of cylinder-shaped polyethylene beads mounted on spring wires in the cleaning head vibrate up and down, beating the rug at 2,200 strokes per min. The

head has only three moving parts without belts, pulleys, or gears, and it weighs only a few ounces. The canister cleaner, itself a lightweight at 17 lb., is priced at just under \$90 including the new head and other accessories.

Eureka's new beater appeared only two months after Preco, Inc., of Los Angeles developed a powered brush accessory driven by an air motor in the cleaning head (BW-Jul.26'58,p102) that operates off the suction of the cleaner. The Preco accessory head costs slightly less than \$20.

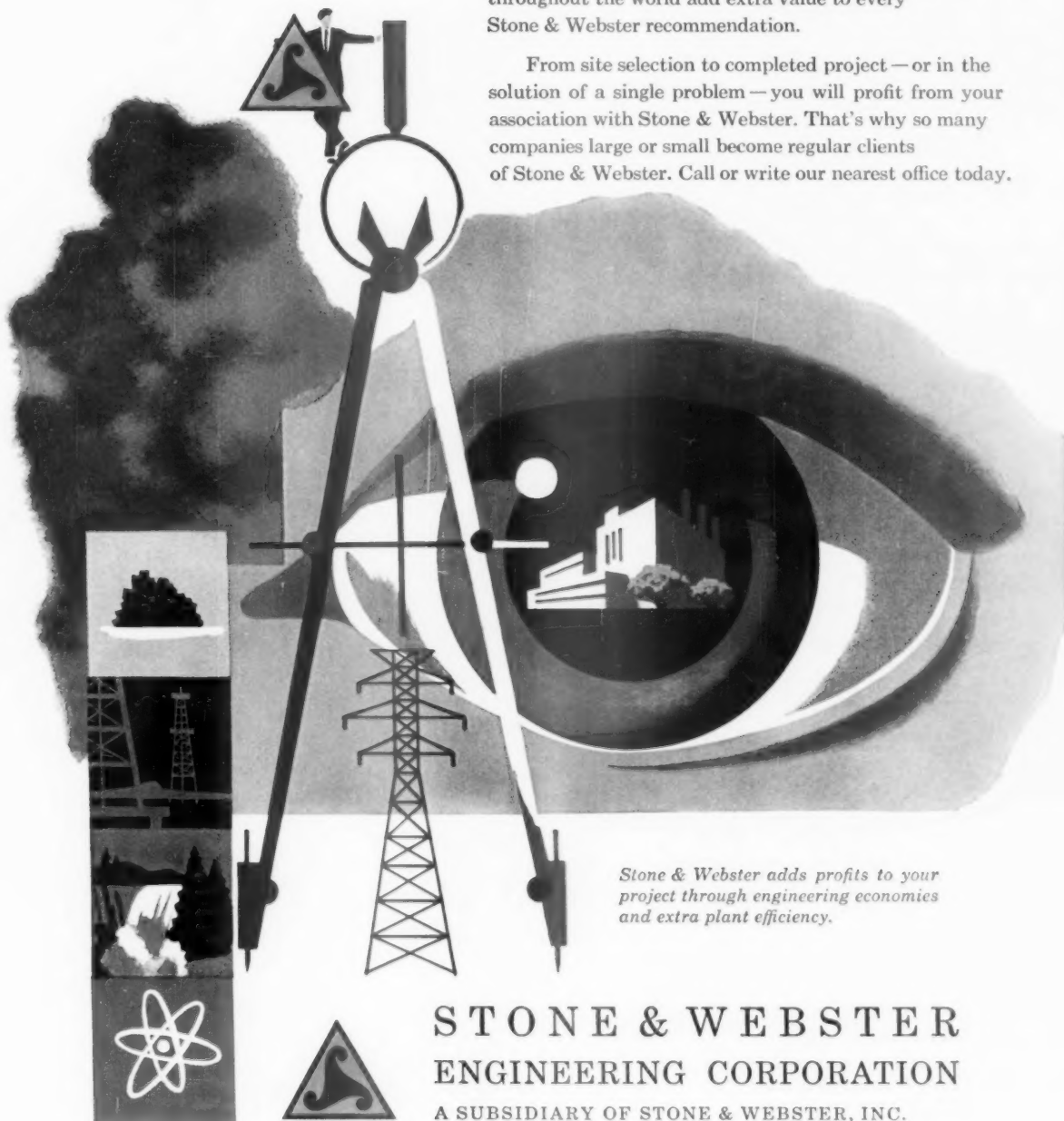
This week, Lewyt Corp. offered a new model with a cleaning head containing an electrically powered brush run by concealed wires running

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president, J. R. Hoover, tells how

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"Big strides ahead, like our new CARBOPOL* water-soluble resins, for example, are only steps in a constant quest for better living. We're always building for the future. What the chemical industry is working on today will determine the progress and prosperity of tomorrow.

"Progress is often paced by industrial teamwork. You must have suppliers who share your belief in quality and service — who are alert and responsive to the ever-changing needs of our expanding, competitive economy. That's Wyandotte Chemicals. They anticipate our growth by growing themselves — with new chemicals, new plant additions, geographical expansion such as their new facilities near Baton Rouge . . . they're active partners in progress in an industry that's become the catalyst of our expanding economy."

How about your business — may we serve you?
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Pacing progress with creative chemistry

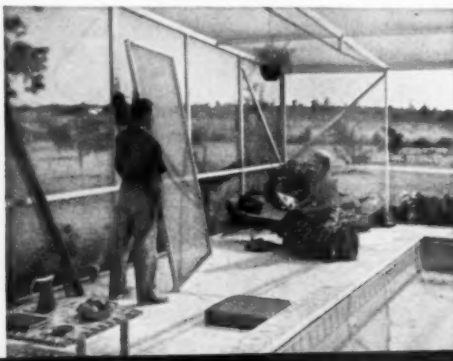
1 John R. Hoover, head of fast-growing B. F. Goodrich Chemical Company, and past chairman of Manufacturing Chemists' Association, says, "Nearly everything you see, taste, or touch depends in some way on chemistry. For we're living in a chemical age. Chemical companies working with each other—like Goodrich and Wyandotte—use creative chemistry to assure more and better products for you."

PHOTO BY BELLG

2 B. F. Goodrich Chemical's Calvert City, Kentucky plant manufactures several important products including vinyl chloride monomer, from which its versatile GEON* polyvinyl resins are made. Wyandotte chlorine is employed in producing this monomer.



3 Glareless GEON-coated glass fiber screening won't wrinkle or dent from accidental bumps . . . won't shrink, can't rust. GEON polyvinyl materials find hundreds of uses in consumer and industrial products—as do most chemicals from Wyandotte.



4 Now on stream: Wyandotte's new Geismar Works immediately south of Baton Rouge, La. This new facility, along with Wyandotte, Michigan plants, makes Wyandotte chemicals accessible to four-fifths of the productive capacity of the U.S. and Canada.



through the hose and wand. The Lewyt cleaner is priced at about \$120. Earlier this year, Whirlpool Corp. introduced a somewhat similar electric-powered brush attachment with an exposed power cord running from the canister to the brush head.



Makes Paper Boats



Or Waterproof Boxes

This is one paper boat that's seaworthy. Made of corrugated paper, it's waterproof because it's impregnated with wax, and it's still in good shape after several hours of test sailing.

The boat is only a demonstration of the M/R (for moisture-resistant) board developed by Hinde & Dauch Div. of West Virginia Pulp & Paper Co., Sandusky, Ohio, for packing fruit and produce that must be cooled with water or ice while in transit. No special coating is needed. Hinde & Dauch makes specially designed boxes of the board. The cost is slightly less than comparable wire and wood produce baskets and boxes. **END**



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1 Wall panels begin with a framing of two-by-four kiln-dried West Coast fir.

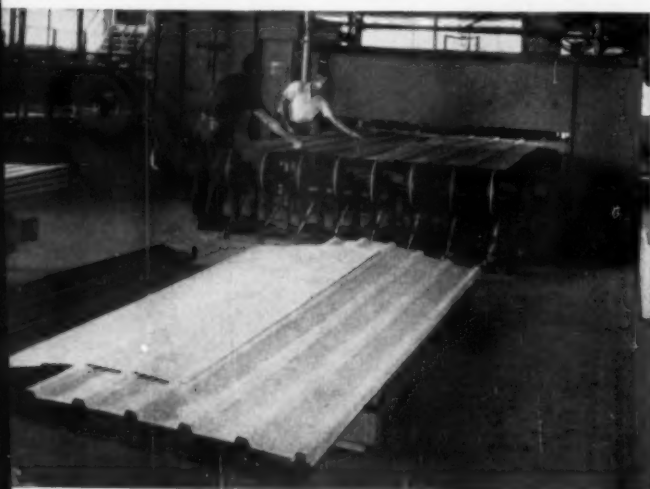
Prefab Does It With

Someday, the prefabricated housing industry hopes, most new houses will roll off production lines like those in the pictures. Prefab builders look enviously at Detroit's pushbutton process, contrasting it vividly with the anarchy of conventional building.

But the customer is still to be convinced. The prefabs already sell for as much as 20% less than custom-built homes, yet only one out of 10 homes sold is prefabricated. Obviously, the mass of home buyers can't be sold on price alone—or even on the upgrading of design that the prefab industry has tried in the past few years.

Now the industry is trying another tack: giving the customer something that's currently not available, using on-site construction methods. The pictures show assembly and installation of a new type of aluminum panel, spray-enamelled and baked on at the factory. National Homes Corp. of Lafayette, Ind., introduced aluminum-clad homes last week as part of its 1958-59 line. National claims to be the country's largest prefab builder.

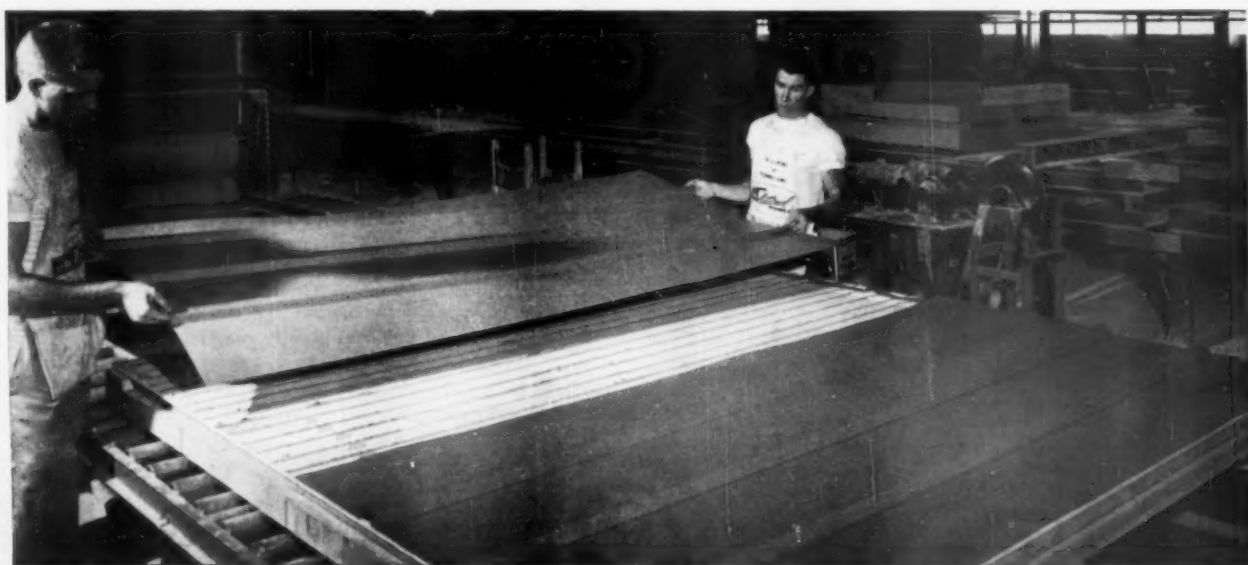
• **No Extra Cost**—The houses with aluminum sides and roofs cost no more than National's prefabs of conventional materials—they're in a price range from



2 Cut and stamped aluminum sheets are chemically treated, before painting, to provide a better base for the enamel.



3 Multi-jet traveling sprayhead spreads enamel finish evenly over the treated panels as they move through the spray booth.



4 Aluminum siding is applied to the panel's gypsum backing and held firmly by a Minnesota Mining & Mfg. Co. adhesive.

Aluminum

\$8,750 to \$11,000, plus site. But they offer advantages to the householder, as well as to National Homes and to the aluminum industry:

- The customer gains freedom from problems of upkeep. National says the baked enamel roof and wall panels should last at least 15 years without repainting. At worst, conventional paint could then be applied, but there's a good chance that some more enduring finish will be ready by then as a replacement. National estimates that not having to paint the house will save the householder \$120 a year.

- National is able to expand eco-



OVER-ALL VIEW shows National Homes' California Contemporary design. Windows are built into the wall panels as the panels are fabricated, in the factory.



5 Roof panels are applied to special mountings that are insulated from the rafters by rubber blocks, to deaden sound of rain.

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nomical production-line fabrication to include finishing operations. Most builders feel that this degree of prefabrication is needed if the prefabs are to challenge the big tract builders in the low- and medium-price fields.

- The aluminum industry sees another new market. On the basis of National's experience, and experiments by other companies, aluminum producers are now talking confidently of a jump in the consumption of aluminum by residential housing from 150-million lb. this year to 450-million lb. by 1963.

- **Assembly Line**—The chief advantage of any prefab builder is his ability to cut cost by efficient use of production lines in which semi-skilled workers do what high-paid carpenters, bricklayers, and painters would otherwise do at the site. National Homes feels that the economy of applying an attractive baked-on exterior finish to the aluminum panels before they are assembled at the factory is bound to enhance this competitive advantage.

The most notable previous attempt to accomplish this was shortly after World War II, when Lustron Corp. offered prefabricated houses clad in porcelain-enameled steel. But Lustron homes involved much expensive on-site fabrication, too, and some builders feel that this contributed greatly to the company's difficulties. Lustron Corp. dissolved finally in a welter of legal, financial, and managerial troubles, yet many homeowners still swear by the houses it built.

Makers of plastic materials are also working toward broadening their foothold in the housing market. Monsanto Chemical Co.'s House of the Future (BW-Jun.15'57,p179) is one indication of the possibilities in plastics. U.S. Rubber's Naugatuck Chemical Div. is already marketing reinforced translucent and decorative plastic panels for houses.

- **Aluminum Advance**—The aluminum producers are equally active in exploring the market, and they aren't resting on the development of National Homes' panels.

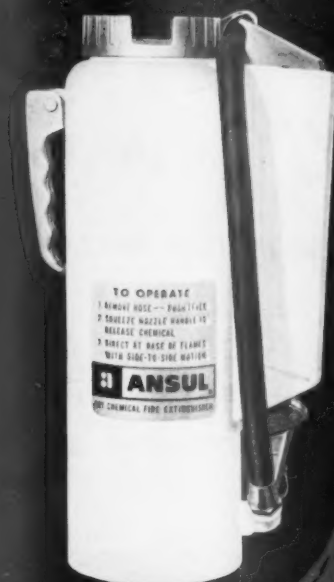
As far back as 1948, Aluminum Co. of America built a house to demonstrate the uses of aluminum in home construction. Alcoa and Reynolds Metals Co. have built about 30 such houses since then. And though not competitive in cost they do show the public the advantages of using aluminum. Alcoa's houses, which contain about 9,000 lb. of the metal in each case, were priced upward of \$60,000.

Alcoa worked most closely with National Homes in developing this year's model homes in aluminum, but Reynolds Metals and Kaiser Aluminum & Chemical Corp. also helped.

- **Types of Panel**—Aluminum's newest use seems to be in panels like those

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THE HOSPITALITY STATE

adopted by National Homes. Steel, on the other hand, seems most promising as a support structure rather than in paneling. U.S. Steel Homes last year, for example, started using steel frames in the interior and exterior walls of its prefabs. But builders generally agree that steel panels must await improvement before they are economical.

Until now, aluminum seemed to be in the same position as steel as a material for panels. The light metal had gained wide use in window and door frames—nearly 35% of all windows sold are aluminum-framed—and in other features where its durability and corrosion-resistance are important: gutters, downspouts, ducts. It is used, too, for all sorts of decorative and functional hardware. But its higher cost kept it from breaking into the market for siding and roofing.

The National Homes process changes aluminum's outlook. The production line turns out exterior panels specifically to National's designs, but the aluminum industry is working on smaller, standardized panels that might be adapted to mass use by builders. These would be sandwiches of aluminum on the outside, foamed plastic insulation in the middle, and a wood surface for the interior wall. Alcoa says this is a "highly promising" development that is already in the testing stage.

• **Rain on the Roof**—National Homes builds its aluminum wall panels around wooden framing set up in a jig. Gypsum backing for the aluminum siding is attached by glue and nails. The aluminum, already sprayed with enamel and baked, is glued to the gypsum backing and pressed tight. Prefinishing of the aluminum is the big saving here.

The new roof, which National developed in cooperation with Alcoa and Purdue University, cuts installation costs in half by eliminating the need for wooden sheathing. The 4-ft. corrugated aluminum panels are fastened directly (by blind riveting, as in an airplane's skin) to a metal strip fastened to wooden cross-members between the rafters.

These brackets that receive the rivets are mounted on rubber blocks, to deaden the sound of a heavy rain on the metal roof surface. National Homes officials say the patter of rain is not even so loud as with a conventional shingle roof.

Iron Oxide, Impurities Parted by Electricity

A new system for iron ore beneficiation uses an electrical separator to pry impurities loose from iron oxide. The system was developed by Carpo Research & Engineering, Inc., Jackson-

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ville, Fla. It will be manufactured and sold by Joy Mfg. Co., Pittsburgh, which is ready to start production of the equipment.

The Carpeo process operates by dropping powdered ore through a corona electrical discharge flowing between a 40,000-volt conductor and a grounded rotating drum. Iron oxide, being a good conductor, retains very little electrical charge and is spun off into a collecting hopper. Other minerals in the ore—mostly quartz—are poor conductors, so they hold the charge. This hurls them onto the drum, which dumps them into a different collector.

• **Advantages**—The process has these advantages: (1) It's a dry process, so it can be used in climates where freezing temperatures make wet separation difficult; (2) operating costs are low; (3) it will separate non-magnetic ores as easily as magnetic ores; and (4) it can separate elements like silicon and sulphur, which makes trouble for blast furnaces.

Its main weakness is in handling ores like the taconites, which must be ground finer than 100 mesh for separation. But for ores that can be coarsely ground, the system appears to be efficient, according to Joy engineers. It is therefore particularly suitable for ores like those found in the U.S. Steel and Jones & Laughlin fields in northeastern Canada (BW—Oct. 19'57, p175).

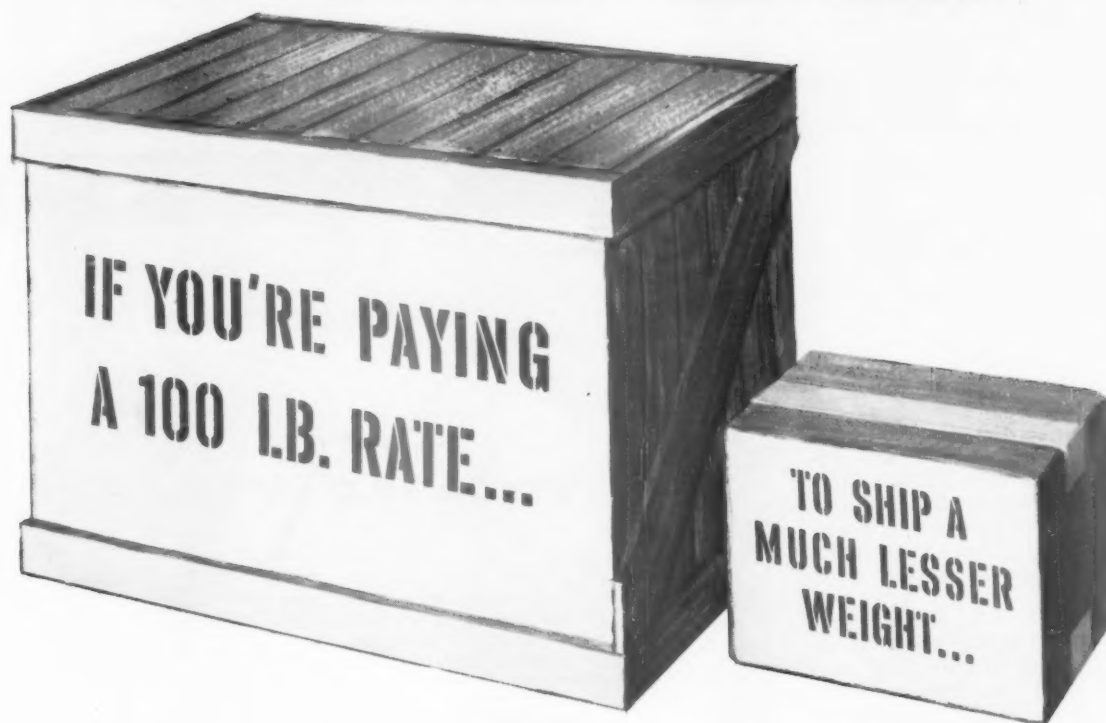
PRODUCTION BRIEFS

M. W. Kellogg Co. has been appointed U.S. sales and licensing agent for the direct iron ore reduction process developed by Fierro Esponja, S. A., Monterrey, Mexico. The process uses hydrocarbons, such as natural gas or petroleum, to reduce iron ore to sponge iron, a hard, porous material that can be used to make steel instead of pig iron.

A new synthetic rubber called cispolybutadiene stands 40% more wear than natural rubber on truck and passenger car tires, according to tests conducted by Armstrong Rubber Co. and Phillips Petroleum Co. The new rubber, in pilot production at Phillips, probably will be less expensive than the isoprene-based rubbers—up to now the only synthetics able to resist the damaging build-up of heat in truck tires.

The molecular sieve developed by Linde Co., a division of Union Carbide Corp., has been adapted by the Texas Co. to remove low octane components from gasoline refinery charge stocks. The sieves—synthetic minerals with uniform pores—adsorb the straight-chain low octane molecules and reject the high octane branched-chain molecules, which are used to make improved gasolines.

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Stockholders Get a Break

The charts at right tell a story of a huge corporate gamble that seems to have worked. The nation's corporations bet the slump in earnings would be shallow and short-lived—and continued to pay dividends in pretty much the manner to which their stockholders had become accustomed.

It's true that some companies reduced or omitted their yearend "extra" last year; others have since pared their regular payments, and a number—particularly in industries hard hit by recession—eliminated them entirely. Over-all, though, cash dividends have held up surprisingly well this year.

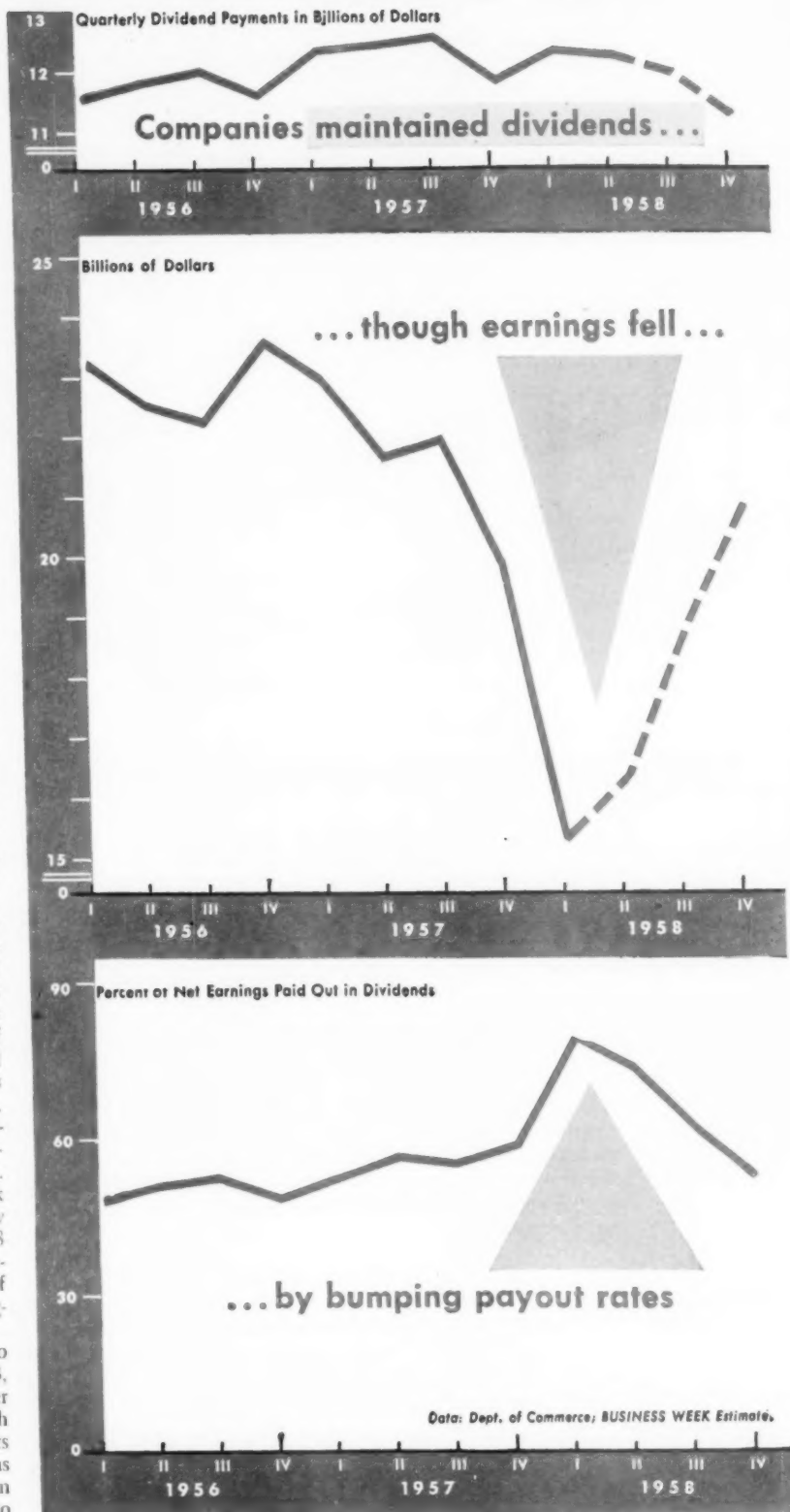
• **It Worked**—At the moment, it looks as if the strength in dividends may have been justified. Earnings did drop more drastically than many had figured, but the recession turned out to be relatively brief. Production didn't fall off much farther than in previous postwar declines. And by now businessmen are generally agreed that the economy is on the way up. The disagreement is over how fast.

The Treasury, in its midyear budget review, estimated that before-tax corporate profits for calendar 1958 would come to about \$36-billion—well under 1956's record \$45.5-billion and last year's \$43.4-billion. But at the same time it's predicting a heartening rise in profits as the year wears on. There's room for improvement, too. Seasonally adjusted, the annual rate of profit before taxes plunged to \$31.7-billion for the first quarter of 1958—the lowest since the last three months of 1953.

Standard & Poor's takes another approach. The 425 companies on its industrial stock index, S&P forecasts, will earn \$2.95 a share and pay dividends of \$1.83, for a payout of 62.5%. This would compare with 1957 earnings of \$3.50 a share, dividends of \$1.94, and a payout rate of 55%; S&P thinks this year's earnings will decline 15.7%, compared with the 17% drop in before-tax profits estimated by the Treasury—but that dividends will slip only 5.7%.

Actually, according to the New York Stock Exchange, dividends paid by listed companies in the first half of 1958 were almost 1% ahead of the year before. In the same period, earnings of many of these companies were plunging.

• **More to Come**—Profits now seem to have struck their low (BW—Aug. 2 '58, p19), but dividends may still suffer some. August, though a light month for dividends anyway, saw payments somewhat below 1957's. And just as directors shy from cutting dividends in an earnings decline, they hesitate to



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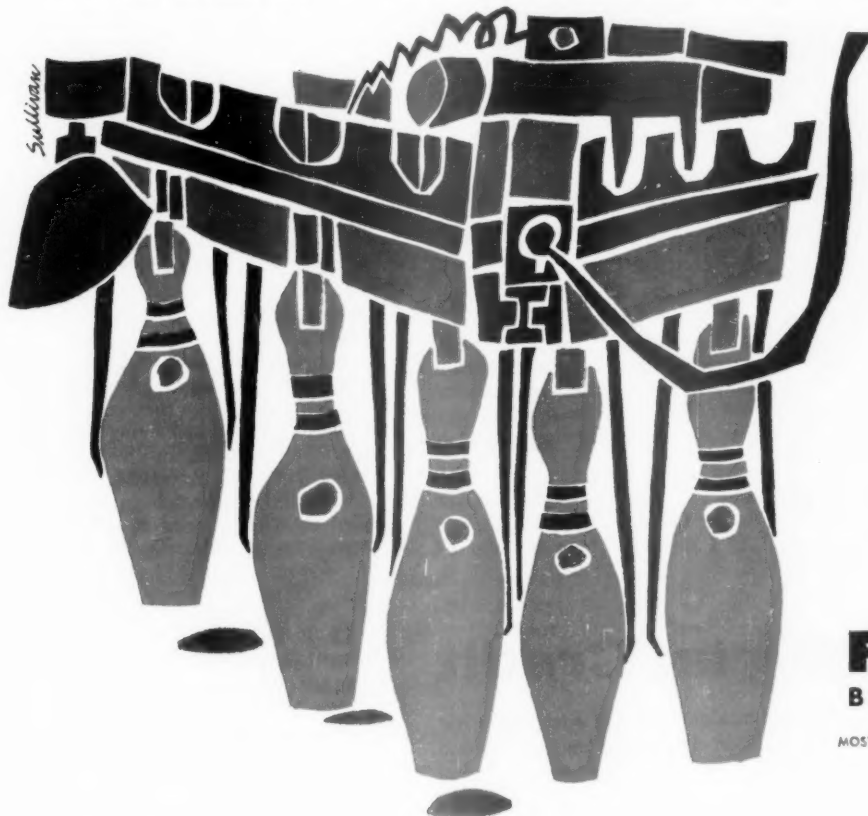
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raise them again until they're certain that an earnings improvement will continue.

Even so, there's basis for optimism—and among some of the worst sufferers, too. Some analysts say dividend cuts are just about over in two of the hardest-hit industries, steel and nonferrous metals. Between them, the two accounted for roughly half the dividend cuts of the past year, in dollar terms. There's a distinct upturn in steel, an improvement in copper, and signs of a leveling out in aluminum.

• **Conservative Tack**—Earnings aren't the only factor determining dividend policy, however. A company wants to be sure it can maintain higher dividends before hiking them. Thus, Latrobe Steel Co. just reduced its common dividend from 25¢ a share to 5¢, though it expects better earnings for the rest of the year. Pres. M. W. Saxman says the reason is that so far this year profits have been below the same period of 1957. It needs to conserve cash until earnings actually perk up.

Some companies' earnings have perked up, and stockholders reap the reward. A. M. Byers Co., for example, just announced its first common dividend in four years. The company's profits in the second half of fiscal 1958 were so much better—five times the year ago period—that in addition to the regular 10¢ payment it declared a 40¢ year-end extra, first since 1951.

Many companies pay dividends even when earnings barely cover them. This was the case with Diamond Gardner Corp., which for the first two quarters this year kept up the 45¢ payment it has been doling out since 1955, though this left little of its earnings for other purposes. For the third quarter, it had to slash the dividend to 30¢—and even this will take a big bite out of available income. But the company thinks it's worth it to continue its record of paying a dividend every year since its formation in 1881.

A number of big outfits take advantage of periods like the present to clean up their books, since they assume stockholders expect discouraging news anyway. For instance, in the fiscal year ended July 31, Royal McBee Corp. wrote off \$1.8-million in bad debts that piled up when it tried to sell portable typewriters on an installment plan without downpayment. The plan fizzled, and writing off the resulting debts helped push earnings down to 3¢ a common share from \$2.68 in fiscal 1957. In April, the company sliced its quarterly cash dividend 57%, from 35¢ to 15¢. It could have amortized the losses over a long period, but, explains one Royal McBee board member, "we wanted to start fresh in the new year." The stockholders, he adds, "will understand." **END**



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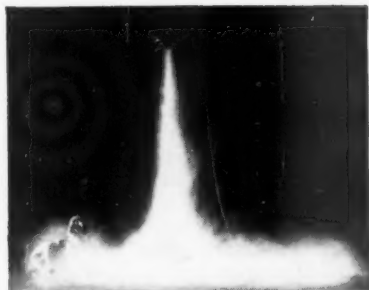
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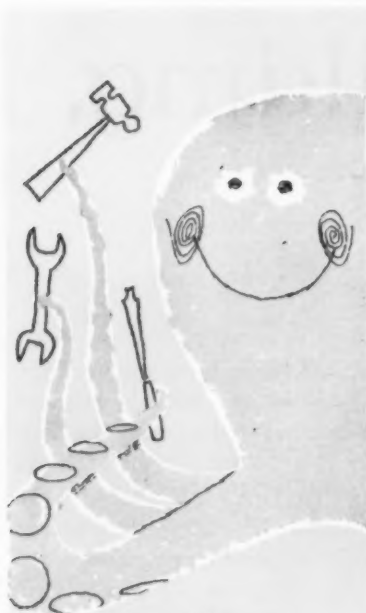
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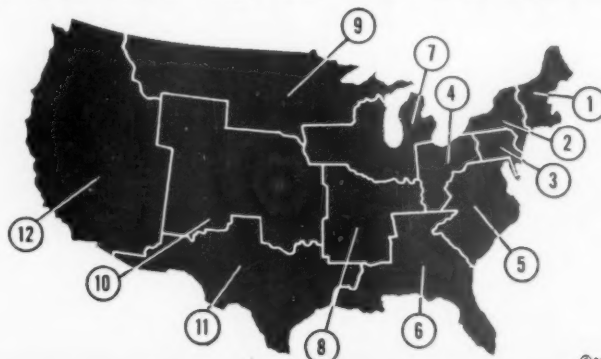
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CHARTS OF THE WEEK

The Income Pattern: Business Week's Regional Income Indexes

U. S. Incomes: Up 0.7% From Last Year



©BUSINESS WEEK

Federal Reserve District	% Change vs. year ago	The Indexes		
		July 1958	June 1958	July 1957
1. Boston	-0.6%	283.0	283.6	284.6
2. New York	+3.1%	316.0	310.2	306.6
3. Philadelphia	+3.0%	312.6	309.3	303.6
4. Cleveland	-2.4%	345.4	346.8	354.0
5. Richmond	+0.8%	383.8	381.6	380.7
6. Atlanta	+2.1%	488.6	480.4	478.4
7. Chicago	-0.9%	357.9	358.8	361.2
8. St. Louis	+0.2%	338.0	336.9	337.2
9. Minneapolis	+2.9%	379.2	371.4	368.5
10. Kansas City	+1.9%	438.4	445.7	430.4
11. Dallas	-4.5%	510.1	509.8	534.4
12. San Francisco	+2.7%	419.9	413.9	408.9
Nation	+0.7%	366.5	364.2	363.8

1941 = 100; adjusted for seasonal, July figures preliminary; June revised.

The Improvement Continues

U.S. incomes in July, 1958, topped the year-earlier level by 0.7%, according to BUSINESS WEEK's Composite of Regional Income Indexes. Higher industrial production and increased construction activity were the chief factors responsible for the July improvement.

The regional pattern of incomes was marked by considerable variation in comparison with a year ago. New York and Philadelphia, helped by higher construction activity, showed the sharpest gains; Minneapolis, San Francisco, and Atlanta had smaller but still sizable increases. Of the four regions registering declines in income, Dallas suffered the biggest year-to-year loss, falling behind July, 1957, by 4.5%. However, the region actually showed an improvement in income over June and lagged behind the year-ago pace only because

of the unusually high income recorded in the previous July when oil output was much higher. Declines in income in the Cleveland, Chicago, and Boston regions reflected the continuing difficulties in the metalworking industries.

• **Month-to-Month Gain**—For the country as a whole, July incomes were 0.6% higher than in June. All but four of the regions climbed above the previous month. The biggest jumps were run up by Minneapolis and New York. The biggest dip showed up in the Kansas City district, but because of better returns from agriculture, this area consistently had resisted the recession pattern throughout the last year. The Boston district, in contrast, continued a decline that began last April even while the national trend was showing steady, month-to-month improvement.

(Advertisement)



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Aircraft Components Manufacturer*

"I was interested in this ad because we needed just such an instrument. I have already purchased one as a result of reading this ad."

*Plant Manager
Dairy Company*

"I very seldom have anything to do with fasteners, but I needed a special one the other day and sure enough, I found it in this ad. I got the fastener I needed."

*Member of Technical Staff
Missiles Development Company*

"I'm looking for any ideas that will improve our services. For instance, we have used the — — in our offices and plants to our ultimate satisfaction, and I know that — — equipment purchased at our plant was gotten from ads in — —."

*Director, Executive Development &
Organization
Food Merchandising Firm*

"We have contemplated expansion because of ideas gathered in this magazine . . . ads on removable walls, etc. We were interested in room dividers. We also purchased several new office machines—a copying machine for one, just recently."

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"We had been in the market for a pump and this was very timely. The ad showed features that were different from other pumps and required less maintenance. We're installing some — — pumps."

*Quality Control Engineer
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*Foreman
Aircraft Engine Manufacturing*

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INTERNATIONAL OUTLOOK

BUSINESS WEEK

OCT. 4, 1958



U.S. policy in the Formosa Strait crisis (page 36) has developed pretty much according to plan. It was the tactics, not the strategy, that changed this week.

It has been in the cards from the beginning (BW—Sep.13'58,p35) that the U.S. would offer to neutralize the offshore islands. But Secy. of State Dulles and Pres. Eisenhower couldn't say this publicly until this week. First, the U.S. had to strengthen the Nationalist position on Formosa itself and develop a system for getting supplies through the Communist blockade of Quemoy. Offering concessions before now would have been a clear backdown before Communist force.

As things stand today, we can sweat it out, as we did in the Berlin blockade, until the Chinese Reds give up their attack on Quemoy. In this case, of course, an end to the crisis will require concessions by the Nationalists as well as the Communists. In the meantime, there will be plenty of diplomatic maneuvering—and not just between the U.S. and Red China. The Russians will be involved, too.

In the diplomatic maneuvering, London may play a key role. British Foreign Secy. Lloyd has been trying to find a compromise formula.

But Lloyd is not playing things the way Anthony Eden did during the 1954 crisis over Indo-China. In getting that settlement, Eden acted on his own, disregarded Washington's views. By contrast, Lloyd is publicly backing the U.S. position on Quemoy.

Peking is waging a war of nerves with the British in Hong Kong. But neither London nor Washington is alarmed. The British regard the ferment as Peking's warning to keep hands-off in the Formosa crisis.

In Burma there has been a peaceful transfer of power to the Army. This heralds a tougher anti-Communist policy in that neutral country.

The shift in Burma bolsters Washington's belief that the tide is running against Communism in Southeast Asia, largely as a reaction to the aggressive Chinese Communist policies. It also reinforces the Administration's conviction that the U.S. must continue to resist any efforts by Red China to expand its influence by force.

The worst of this summer's Middle East crisis seems to be over. The U.S. is pulling its forces out of Lebanon. King Hussein of Jordan said this week that British troops will be leaving his country by the end of the month. And Secy. Gen. Hammarskjold reported this week to the United Nations that things were looking better in the Middle East.

Even so, developments in that area have a topsy-turvy quality. There is certainly no sign of stability, except in Pres. Nasser's control over the United Arab Republic. (Right now, Nasser is tightening his grip on Syria.)

Events in Lebanon and Iraq don't fit into any logical pattern. There's no telling where they may lead.

In Lebanon, a strike by the Christian half of the population has paralyzed the country's economy far more than did the earlier rebellion by pro-Nasser Arabs. It's a strike against the new cabinet of Premier Karami,

INTERNATIONAL OUTLOOK (Continued)

BUSINESS WEEK

OCT. 4, 1958

which the Christians regard as much too pro-Nasser. Some 90% of Lebanon's stores, offices, factories, banks, and even government departments are shut down. The strike probably will continue until the cabinet is reshuffled to include some pro-Western members. If Pres. Chehab doesn't agree to that, the possibility of a religious war can't be ruled out.

In Iraq, the revolutionary government seems to be moving away from Nasser. Premier el-Kassem has just removed Deputy Premier Arif, a pro-Nasser extremist. This may be a sign that el-Kassem plans to build Iraq into a center of Arab power rivaling Egypt. But until his government shakes down, there will be no proof that he can carry through such an ambitious policy.

Washington is keeping up the pressure for international controls on production and export of lead and zinc. The Administration hopes to counter the bad feeling aroused abroad by the new U. S. lead and zinc quotas.

Pres. Eisenhower this week sent letters to the governments of Australia, Peru, Canada, and Mexico. He urged continued efforts to work out a lead and zinc agreement among producing and consuming countries. But he also left the door open for an agreement just between producers, even for bilateral deals that might ease some of the impact of the U. S. quotas.

London this week is full of rumors that a move toward sterling convertibility may be announced at the New Delhi meetings of the World Bank and International Monetary Fund.

Still, some of the smart money in the City seems to be betting that the next step toward convertibility will be postponed until next year. Then it could come along with a final relaxation of Britain's special import quotas on dollar goods. The rumors, however, are based on word that the Macmillan government has been seriously discussing convertibility.

In Mexico, the incoming government of President-elect Lopez Mateos sees one economic problem after another piling up. Its first days in office, after the December inauguration, won't be the picnic that observers foresaw last July when Lopez Mateos was elected.

Mexican mining was hit by Washington's imposition of quotas on U. S. imports of lead and zinc, coming on top of a slump in prices for these metals. Besides that, Mexican miners have called a strike for Oct. 17. That follows a wave of labor violence in other industries since early this year.

The industrial state of Sao Paulo is the place to watch in this week's congressional and gubernatorial elections in Brazil. At midweek, the PTB (Vargas' labor party) and Luis Carlos Prestes, Brazil's powerful Communist boss, were giving strong support to Adhemar de Barros, mayor of Sao Paulo and candidate for the state's governorship.

The winner of the hotly contested race stands a good chance of moving up in 1960 elections to become Brazil's president. In any case, a victory for the labor party would undermine Pres. Kubitschek's already weakened position favoring close economic ties with the U. S.



The day the brain lost its head

Such excitement—the day our firm took delivery of Polyvac! According to Mr. Ackish, our head accountant, this Giant Brain could do just about anything in the world except warble “Oh Promise Me.”

“Payrolls! Billing! Inventory and sales analysis!” he exclaimed. “She’ll cut corners all along the line.”

Ackish didn’t mention it, but he’d done a little corner-cutting himself. Seems he had picked up a “good enough” power feeder cable

instead of the Okonite cable the engineers had wanted. Polyvac, they had pointed out, gulps a lot of juice.

Well, Polyvac gulped a little too hard one hectic day while rushing out a bid for a big construction project. Ackish’s “good enough” power cable wilted and died, leaving us with our bid stuck in the works and a backlog of seven other big jobs to go.

We’d probably have lost the contract, and we’d *still* be cleaning

up the figures, if Okonite hadn’t come to our rescue. While Ackish was on the President’s carpet, pleading thirty years of faithful service, they were installing an Okonite cable and starting Polyvac up again.

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In the Markets

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Long-Term Governments Hit Lows In Wake of Treasury's Financing

The generous terms the Treasury placed on its new \$3.5-billion short-term financing hurt the prices of all outstanding issues and reinforced the pronounced trend towards higher interest rates.

Bond men saluted the Treasury for the $3\frac{1}{2}\%$ coupon on a 13-month note and the $3\frac{1}{2}\%$ yield on a special issue of Treasury bills. They felt that these issues would be snapped up, thus avoiding the kind of flop the Treasury faced on its last trip to the market.

But though the Treasury kept out of the long-term market, long-term governments sank to new lows this week. One bond dealer described the situation as "disturbed," and added that if there was any increase in sales it might become "disorderly."

Clearly, investors were not heeding Treasury Secy. Robert B. Anderson's plea to support the government market. Instead they were still seeking to sell governments and buy high-yielding corporates. Corporate bond prices held firm in the face of the decline in governments, a sign that investors were continuing to buy.

Investors are steering clear of governments partly because they know that the Treasury must return to the market for new money before the end of the year. Though it kept out of the long-term market this time, there is fear that this avoidance is temporary, so outstanding issues are anticipating such a move. In contrast, there has finally been a slowdown in long-term corporate financing, so that the demand for new corporate issues is in line with the supply.

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Rumor of Proxy Fight Over Policy Sends Loew's, Inc., Stock Soaring

Loew's, Inc., stock, selling at \$12 a few months back, was up to \$22 this week on rumors that another proxy fight was brewing. Unlike previous Loew's fights, this one would not be over management but over what to do about its properties in the court-ordered separation of the company's movie-making and theater operations.

One side, which seeks to divorce Loew's MGM studios from other operations, is headed by Jerome A. Newman of Graham Newman & Co., which specializes in "special situations" (BW—Jun. 14 '58, p. 115). On the other is Joseph R. Vogel, Loew's president, who wants to bolster the picture-making side, which has been losing money, with income from other operations until the studios are in the black again.

Newman says he wants to avoid a proxy fight, but claims that "if it comes to a fight, I have the votes." He says that Lehman Bros. and Lazard Freres are backing his proposal to separate the highly profitable subsidiaries—including a TV-radio station and a music

publishing and recording business—from the "highly speculative movie-making industry."

• • •

Sheraton Floats \$15-Million Debentures Via Specially Set Up Subsidiary

Sheraton Corp., the real estate and hotel chain, announced this week the successful marketing of \$15-million in $6\frac{1}{2}\%$ cumulative income subordinated debentures through a novel device—the setting up of a subsidiary, Sheraton Securities Corp. The sale took almost three years to complete, was placed with both institutional and individual investors.

Sheraton set up its own company to market the bonds because it had some doubts that normal underwriting facilities would be successful for an income subordinated debenture, which it called "a preferred stock's first cousin."

While Sheraton put a fairly handsome coupon on its issue, it held that its cost, after taxes, was only $3\frac{1}{2}\%$. A preferred stock issue, says Sheraton, would have been much more expensive.

• • •

Bullish Investors Keep Stocks Strong As Rails Confirm Over-All Climb

The stock market this week continued to flex its muscles. While some professionals warned that a technical correction may come at any time, most investors were betting that stocks would continue to rise—and so far, at least, the averages showed no signs of a relapse.

One indication of strength was the increase in volume. There was one 4-million share day this week, and September averaged 3.4-million shares a day, compared to an average of only 1.8-million in September, 1957.

Moreover, the rise in rail stocks confirmed the over-all climb of commons. At midweek, the Dow-Jones rails average hit 144, up from 94 last December, and close to the 1957 high of 157. Investors apparently are moving into those areas that were the most depressed, with the result that the market as a whole is consolidating its gains.

• • •

Justice Dept. Is Willing to Extend Time For du Pont to Get Out of GM

The first sign of a compromise in the see-saw negotiations between the Justice Dept. and du Pont over its holdings of General Motor stocks was visible this week. The Justice Dept.—which has asked the U.S. District Court to appoint financial advisers to study the effect of the divestiture of GM stock on the price of GM and du Pont shares as well as on the stock market in general—has pressed for a 10-year limit for getting du Pont out of GM. But if advisers are appointed, and suggest a longer period, the U.S. will go along—up to 20 years. Du Pont would find this far more acceptable than the 10-year divestment plan.

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1. Cornhusker Ordnance Plant, Grand Island, Nebr.
2. Iowa Ordnance Plant, Burlington, Iowa
3. Kansas Ordnance Plant, Parsons, Kansas
4. Lake City Arsenal, Independence, Mo.
5. Nebraska Ordnance Plant, Wahoo, Nebr.
6. Rocky Mountain Arsenal, Denver, Col.
7. St. Louis Ordnance Plant, St. Louis, Mo.
8. St. Louis Ordnance Steel Foundry, St. Louis, Mo.
9. Sunflower Ordnance Works, Lawrence, Kansas

NORTH ATLANTIC

1. Birdsboro Ordnance Steel Foundry, Birdsboro, Pa.
2. Burlington Ordnance Plant, Burlington, N. J.
3. Edgewood Arsenal, Edgewood, Md.
4. Ordnance Assembly Plant, Edgewood, Md.
5. Radford Arsenal, Radford, Va.

NORTH CENTRAL

1. Badger Ordnance Works, Baraboo, Wisc.
2. East Chicago Ordnance Steel Fdy., East Chicago, Ind.
3. Joliet Arsenal, Joliet, Ill.
4. Kingsbury Ordnance Plant, La Porte, Ind.
5. Twin Cities Arsenal, New Brighton, Minn.
6. Wabash River Ordnance Works, Newport, Ind.

OHIO RIVER

1. Coraopolis Ordnance Steel Foundry, Coraopolis, Pa.
2. Indiana Arsenal, Charlestown, Ind.
3. Jefferson Proving Ground, Madison, Ind.
4. Lima Ordnance Steel Foundry, Lima, Ohio
5. Marshall Plant, New Martinsville, W. Va.
6. Ravenna Arsenal, Apco, Ohio
7. Ridgewood Ordnance Plant, Cincinnati, Ohio

SOUTH ATLANTIC

1. Alabama Ordnance Works, Childersburg, Ala.
2. Holston Ordnance Works, Kingsport, Tenn.
3. Milan Arsenal, Milan, Tenn.
4. Phosphate Development Works, Sheffield, Ala.
5. Volunteer Ordnance Works, Tynes, Tenn.

SOUTH PACIFIC

1. Pacific Ordnance Steel Foundry, Pittsburg, Calif.
2. Riverbank Ordnance Plant, Riverbank, Calif.

SOUTHWESTERN

1. Lone Star Ordnance Plant, Texarkana, Texas
2. Longhorn Ordnance Works, Karnack, Texas
3. Louisiana Ordnance Plant, Shreveport, La.
4. Oklahoma Ordnance Works, Pryor, Okla.
5. Pantex Ordnance Plant, Amarillo, Texas

CORPS OF ENGINEERS, U.S. ARMY



In Business Abroad

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Brussels Fair Flopped as a Moneymaker, But It Did Cushion Belgium's Recession

Like a small town preparing for the circus to pull out, Brussels is getting set for the departure of its spectacular World's Fair on Oct. 19.

While the exhibitors, from the U.S. to Thailand, have won fairly rich returns in propaganda, the host—tiny Belgium—has not done so well financially. Only the hotels have made money out of the fair. These have kept their heads above water simply because the Belgian government, under its original guarantee for “motel” operators, has come to the rescue with an estimated \$3-million in subsidies.

The fair company itself will show a profit—but not so much as had been expected. On closing date, the number of visitors probably will have reached the 40-million mark, at 60¢ admission fee. But many have paid less than full price, so that gate revenue will total only about \$11-million. Besides that, commercial concessionaires have, at best, broken even—visitors looked carefully at exhibits, but spent cautiously for food and souvenirs.

But the six-month fair has cushioned Belgium's recession: Gold reserves now stand at \$1.2-billion, compared with \$1-billion in April. Now, thousands of Belgians, who got employment or higher incomes from the fair, are worried about what their take-home pay will be after Oct. 19.

Meanwhile, foreign exhibitors are deluging Belgium with offers to leave their pavilions intact on the fair grounds. The last thing the exhibitors want—and that includes the U.S. and the Soviet Union—is to carry the cost of carting away their pavilions. At midweek, the only one to win Belgium's acceptance was Norway: It was the first to make an offer.

As matters stand now, all buildings except for the Atomium, the fair's symbol, and a child nursery will be out of the grounds by mid-January. The city of Brussels hopes the new six-nation Common Market and other West European agencies will use the land for their headquarters, as a sort of Washington, D. C., of the continent.

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Latin American Coffee Producers Agree On Export Limits; African Nations Balk

The coffee-producing countries of Latin America have signed a new coffee-export pact, leaving out the African producers. The agreement calls for individual countries to limit exports to a percentage of production during the 1958-59 coffee year.

The African producers refused to go along with the Latin Americans on a percentage basis. They wanted a harder agreement based on inflexible export quotas. Britain said Kenya, Tanganyika, and Uganda wouldn't go along with the Latin countries. The Belgian Congo

MORE NEWS ABOUT BUSINESS ABROAD ON:

- P. 94—Gen. de Gaulle wins a landslide victory for his constitution creating the Fifth Republic, but faces a crucial test in Algeria.

and Ethiopia also refused. France and Portugal announced, however, that they would set export quotas on coffee produced in their African colonies. Beyond that, Africans and Latin Americans have agreed to establish a committee to make a long-term study of world coffee problems.

The agreement between the Latin Americans calls for the biggest producer, Brazil, to withhold 40% of its total crop from market; Colombia, 15%; and the rest, only 5% of the first 300,000 bags they produce, and 10% of the balance of production (BW—Sep. 13 '58, p. 88).

• • •

Japan Offers Metal-Cutting Tool In Bid for High-Tag U.S. Market

Over the past year, Japan has been quietly pushing a campaign to sell reasonably high-priced capital goods—as well as quality consumer goods—in export markets. Last month, it sold a new design machine tool—its biggest in the U.S. so far—to Boeing Airplane Co. for \$50,000. This week, it's showing a smaller tool of similar design at the Western Tool Show in Los Angeles.

Developed by Ikegai Iron Works, Ltd., the so-called Japax machine tool operates on the electro-erosion principle now being applied to metal-cutting problems in the U.S. aircraft and missile industries. The tool is sold in the U.S. by Japax America Corp.

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Bolivia's Battered Economy Jarred Anew By U.S. Quotas on Lead-Zinc Imports

Bolivia's economy, already jarred by Soviet tin dumping, got hit again last week by Washington's decision to impose import quotas on lead and zinc (BW—Sep. 27 '58, p. 155). Together the nonferrous metals account for nearly 96% of Bolivia's total annual exports of about \$100-million.

In the first quarter of 1958, tin exports tumbled 25%, and the picture has darkened since. Now lead-zinc shipments abroad are expected to dip as much as 10%.

To help Bolivia out, the International Monetary Fund and the U.S. are getting together with some assistance.

- The IMF is negotiating a new currency stabilization agreement, replacing a partially successful arrangement made in 1956. The new agreement would make available \$1.5-million to the La Paz government—provided it agrees to rein in the country's spiraling inflation.

- Washington has earmarked \$6-million in grant aid. It's to be used to help the balance of payments situation this year, and provided Bolivia reaches agreement with the IMF. In addition, the country is to get \$17-million in straight economic aid from the U.S., and \$3-million in technical assistance.

De Gaulle's Smashing Victory

But he must remake the nation and settle the Algerian war if the new Fifth Republic is to achieve real success.

France this week stands on the threshold of what could be the brightest period in its modern history. By rallying the nation behind his scheme for a strong presidential regime, Gen. Charles de Gaulle now has a chance to turn wobbly postwar France into a solid industrial power, equal in strength to Britain or West Germany.

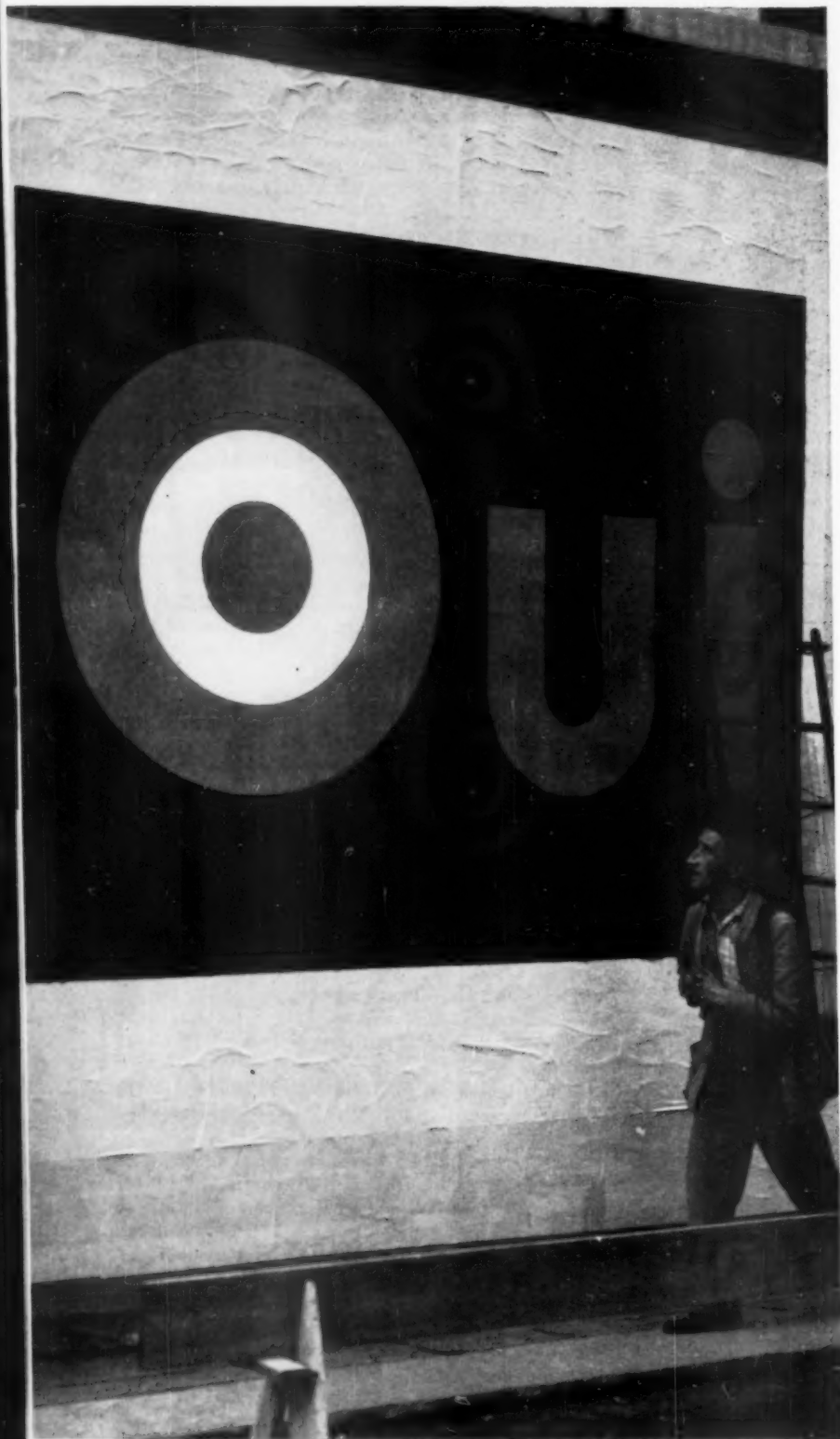
In last Sunday's referendum, Frenchmen surprised themselves by their massive "Oui" vote (picture). By voting 4-to-1 for the new constitution, they not only endorsed the Fifth Republic but gave de Gaulle himself an amazing vote of confidence. As one Paris newspaper put it, "France has given Gen. de Gaulle a blank check on its future."

• **Blow to Reds**—The General and his backers expected a victory, of course. But they weren't looking for the 80% they got. Nor did they expect the Communists, the only major party opposing the constitution, to take such a licking. The support that de Gaulle received from the non-Communist left means that in the future no one can claim that the new regime was imposed by the nation's conservative forces.

The only setback suffered by de Gaulle was in French West Africa, where Guinea (as expected) declared itself independent from France by voting "Non." Elsewhere throughout France's overseas territories, and in war-torn Algeria, de Gaulle waltzed home with easy victories.

As President of France's new Fifth Republic for the next seven years, de Gaulle will be leading Frenchmen along a new path in search of political stability. Since the Revolution of 1789, France has tried to cure its penchant for anarchy with two constitutional monarchies, two empires, and four republics. Now, for the first time, Republican France is experimenting with a strong presidential regime. And this system might be just what France needs to solve its 20th Century problems.

• **New Stance**—These problems go beyond France's uneasy relations with Algeria and its other overseas territories. It was Algeria, of course, that broke the back of the Fourth Republic, and it could drag down the Fifth as well. To assure the new regime a healthy future, de Gaulle obviously must end the Algerian war. But de Gaulle and the



Gives France Bright Hopes

Fifth Republic also must redefine France's position in Western Europe and the world—a task that 25 weak and vacillating governments under the Fourth Republic never could master.

I. To Live With Industry

On the domestic front, the new regime inherits the unfinished job of converting France into a modern industrial nation. The French have never learned to live at ease with the industrial revolution. Despite impressive examples of modern industrial plant and organization, the French economy is encrusted with precapitalist institutions and still dominated by a 19th Century protectionist philosophy. The store keeper who ekes out a meager living by selling one pair of high-cost shoes a week is more the rule in France than the bustling retail outlet with bargain prices to offer. Most married couples of moderate income in Paris live in hotel rooms just because the nation has failed to solve its housing shortage. It is phenomena like these that help explain the all too frequent devaluations of the French franc and the constant failure to export enough goods to pay for the high standard of living demanded by most Frenchmen.

• **Unable to Cope**—The governments of the Fourth Republic were neither blind nor indifferent to these economic weaknesses. But they lacked the political authority to do much about them. The Poujadist movement mushroomed overnight largely because one of the last of the Fourth Republic governments attempted to tax the one-pair-of-shoes-per-week retailer out of business. Under the Fifth Republic there should be no such revolt against government authority. And de Gaulle should have relatively little trouble in pushing through economic and tax reforms.

De Gaulle's economic policies still remain vague. In fact, he doesn't seem much concerned with the economic area. Apparently his idea is this: With a strong, stable government, in which businessmen can have confidence, the economy will look after itself, and automatic forces of growth will take over.

Some observers feel that this approach makes sense for France today. As evidence, they point to the dehoarding of gold and the firming of exchange rates and stock market prices since de Gaulle's advent to power. In Washington you will find officials who argue that France—potentially the richest and best balanced economy in Western Europe—is headed for an economic renaissance under de Gaulle's leadership.

On foreign policy, the Fifth Republic certainly will speak with more authority than its predecessor. Since becoming Premier last May, de Gaulle and his foreign minister, Couve de Murville, have been careful not to rock the boat as members of the Western Alliance. But now that de Gaulle is assured of seven years as President, he is likely to throw more weight around both in the North Atlantic Treaty Organization and in the European Common Market.

• **New Hopes**—When you tick off the domestic and foreign problems confronting de Gaulle, and add traditional French fears of too much central authority, you can understand why many Frenchmen this week have their fingers crossed about the Fifth Republic. But de Gaulle and his aides seem to have few doubts. Their aim now is to find an electoral system that can best translate their referendum victory into another success at the parliamentary elections scheduled for November. Although parliament under the Fifth Republic won't have nearly the power it enjoyed under the Fourth Republic, a cooperative Assembly would still make de Gaulle's political task easier.

II. To Live With Algeria

The thorniest of the immediate problems is how to end the four-year-old Algerian war without dividing France into hostile camps. Then there is a new problem—what to do about the apparent loss of Guinea, one of France's most promising West African territories. By voting heavily against the new constitution, Guinea has declared itself independent and, according to de Gaulle, cut itself off from French financial aid.

In dealing with the overseas territories, the new constitution drops the old "French Union" label in favor of "French Community." Territories can choose complete integration with France or can become fully autonomous units within the French Community.

The constitution provides for a negotiated change of status, but once a territory achieves full independence it has to leave the Community. Algeria, which is considered already a part of France, has not been given a choice in this matter so far.

De Gaulle can't for a moment forget the grinding Algerian war. It was this conflict that brought him to power last May, when the Paris government couldn't control civil and military leaders who revolted against the idea of negotiating a settlement with Algerian Nationalists.

• **Keeping Mum**—Throughout the referendum campaign, de Gaulle kept

his Algerian cards close to his chest. He never once tipped his hand on his own solution for Algeria. This way, he managed to win backing in France from political leaders who hold completely opposite views on how to deal with Algeria. But most observers feel that de Gaulle cannot afford to conceal his position on Algeria much longer. They even wonder whether he has any more room for maneuver in Algeria than the last few governments of the Fourth Republic had.

At any rate, it looks as if de Gaulle is against complete integration of Algeria and France—the solution demanded since last May by French military and civilian leaders in Algiers, the capital. At the same time, de Gaulle seems to be dropping his earlier inclination to negotiate a settlement with the National Liberation Front (FLN). According to insiders he now thinks that Algeria should develop itself much further economically and socially before becoming an autonomous member of the Community. This would mean that negotiations between de Gaulle and the FLN aren't in the cards right now.

U.S. officials, however, feel that it is important for de Gaulle to act fast in Algeria before his new strength is eroded by time. Specifically, they feel that he should advance a solution before he is installed as President and someone else becomes Premier.

• **West Africa**—As for French West Africa, it was one region in the French Union where Fourth Republic policies seemed to be working quite well. In 1956, Paris gave the West African territories considerable home rule, and even held out promise of complete autonomy within the French Union. As a result, not one important French African leader had clamored until recently for complete independence. Even Sekou Toure, the young prime minister of Guinea and leader of today's West African "revolt," was telling visitors only a few months ago that Guinea's independence from France would be "unthinkable."

What apparently changed Toure's mind was de Gaulle's blunt statement during the referendum debate that any territory voting against the constitution would automatically become independent of France. This made Toure feel de Gaulle was asking his nation to vote against even the idea of independence.

However, other influential African leaders such as the Ivory Coast's Houphouët-Boigny convinced their followers that the best and cheapest road to independence was gradual development within the new French Community. **END**

A REPORT TO MANAGEMENT ON HOW

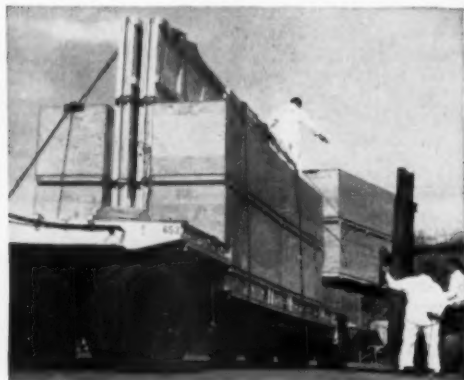
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LABOR

John L. Lewis Goes to Bat Again

The meetings are shrouded in mystery, but odds are that a new soft coal contract is being negotiated.

At midweek, there were continuing reports that the coal industry and the United Mine Workers might be readying a new wage contract. But, no one knew for sure, because the coal industry conducts labor negotiations in secrecy and mystery in an era when most bargaining is carried on with all the fanfare of an industrial circus.

The two men directly involved weren't talking, in public, about negotiations—or much else. It's a good bet that until a new contract is negotiated, signed, and ready to be made public, they will keep up the mystery as much as they can.

John L. Lewis, white-thatched and 78, wore an enigmatic smile. Coal Operators' Edward G. Fox confirmed "routine meetings" with the United Mine Workers, but little more. In fact, he denied any formal demands have come from the union. Nevertheless, reports persisted in the coal fields that a new contract was being discussed, and there was concrete evidence to back this up. There were reports that an agreement had been just about reached.

• **Standard Procedure**—Mystery bargaining is now standard operating procedure in the coal industry. It's a system designed especially for the industry, part of a complete turn-around in bargaining outlook.

As a result, coal bargaining is no longer what it once was—the nation's labor storm center. In fact, in the past eight years it has a record unmarked by strife.

There are other labor-management results, besides the elimination of costly and violent strikes:

- Coal operators agreed to hefty pay hikes in three of the past seven years, but Lewis made no new wage demands in four years. The new pay costs, while sizable, were offset in good part by new labor saving machinery brought into the mines with the union's approval.

- The miners fared well with a daily wage almost \$6 higher than when the system started—without time lost by strikes. Their rates, the highest in industry, are now \$22.75 a day, and, with fewer miners to share the work, their average work week is longer. Wages run close to \$100 per week.



UMW's Lewis and Coal Operators' Edward Fox reportedly are on the brink of agreement.

While the coal operators and the United Mine Workers have their own special problems, their system offers some lessons on how to alter bargaining to fit special problems.

I. The Latest Talks

Last week, reports filtered from the coal areas back into Washington that Lewis and Fox had come to terms on a proposed new agreement. The terms were given as a \$1.20-a-day wage hike, possibly a 10¢ increase from 40¢ to 50¢ a ton in operator payments to the UMW welfare fund, and a 15-min. cut in the miners' eight-hour work day.

This would be a hefty package, even in good times. Since the coal industry isn't having good times this year, many coal operators are skeptical of the reported dollars-and-cents terms.

But, there are these signs that indicate something is in the works:

- Fox went into a huddle with his Bituminous Coal Operators Assn. to report on meetings with UMW Vice-Pres. Thomas Kennedy, Lewis' emissary. Fox, like Kennedy, comes out of the anthracite industry, and the two did some of the negotiating in 1956. There was no specific word on what Fox and Kennedy talked about.

- Lewis quietly called a UMW

executive board meeting for next week. The 32-man board of union officers doesn't decide on new contracts, but is made up of the hard core of the 200-man wage policy committee that would give an O.K. to any new agreement.

- This is October, the usual month for coal settlements. And soft coal production is slowly but steadily rising with good prospects for 1959.

II. The Key People

Everything about coal negotiating lends itself to the air of mystery. The two men who do the bargaining, Lewis and Fox, also carry on the day-by-day policing of the agreement.

Fox has had little trouble shifting from anthracite negotiations to the soft coal side of the industry. He had negotiated many times with UMW Vice-Pres. Kennedy on hard coal issues, and had been accepted by the union with confidence and respect.

It is a short walk for the tall, heavy-set coal operator from his headquarters to the United Mine Workers building one block away, closer still to the Sheraton-Carlton Hotel where Lewis lunches almost daily. At both places they can and have talked of conditions in the industry—and of contracts.

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"... the system started out successfully in 1951, with a peaceful settlement. It has been the practice since . . ."

STORY starts on p. 97

ago, this would have been impossible. Lewis was not then in the shadow of other labor leaders; whatever he did was in glaring public light. Now, while he is still recognized on the street, he can, and does, go about his business quietly.

While Mine Workers associates talk about the "boss' tough working day," Lewis paces himself. He turns over many union details to associates—such as letting Kennedy handle some negotiations—and this also helps to keep him out of the public eye.

Even his daily living habits lend to the quiet bargaining. Driving from his 150-year-old colonial home in Alexandria, Va.—which is opened once a year for the city's home tours—Lewis usually arrives unnoticed in his office. His office routine is much the same; public appearances are spaced out.

In such an atmosphere, Lewis and Fox have an opportunity to talk contracts any time they want changes.

This method was designed in 1950. It was put into effect with the formation of the Bituminous Coal Operators Assn., made up of the leading Northern coal producers, both within and outside the steel industry. They wanted labor peace after 65 years.

• **No Fanfare**—The system started out successfully, with a peaceful agreement in 1951, reached between Lewis and the late Harry Moses, whom Fox succeeded. The contract was the traditional coal type—an open-end agreement that would run at least one year until notice was served by either party.

It was reached in a then-unusual atmosphere, outside the public view. Nobody knew the agreement was in until Moses took the terms to his contractors' group and they agreed. It happened without the fanfare that had always surrounded Lewis' bargaining, and which helped to foment trouble.

Since then, this has been the practice. After his first year's contract, Lewis made no demands on the operators for four years, though he could have opened the contract at any time. He waited until 1955 to win \$2-a-day raises for his miners, then did it again in 1956.

III. Formula Bargaining

Another factor that lends itself to the quiet bargaining system is the clear-cut nature of union demands. Lewis makes no bones about his wants—a share of the

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increased productivity in the coal mines. He sets a high price on this.

"We decided," Lewis once said, "it is better to have half a million men working in the industry at good wages and high standards of living than it is to have a million working in the industry in poverty and degradation."

• **Price of Automation**—Lewis' acceptance of automation—he says he "forced" the industry into it—is the hard core of his bargaining procedure. Except for his prideful welfare and pension fund for the miners, he avoids such fringes as cost-of-living and other items for the UMW.

The welfare fund is part of the automation price, and Lewis' demands are for support of long-term miners who are displaced. At the current price of 40¢ a ton, the coal operators support a welfare plan that pays health and pension benefits out of income. Fund reserves are at a \$145-million level.

While the coal industry has invested heavily in modernized equipment, Lewis has lost UMW members to the machine. Where he had 400,000 members some 15 years ago, the total now is about 180,000. And the output of each miner has gone up as fast as jobs have been lost. Just in the past 12 years, a miner's daily output has risen from six to 11 tons.

Employment on the other hand has dropped from 350,000 to 180,000 while the same annual tonnage was produced.

• **Timely Bargaining**—These are bargaining figures for Lewis. They can be offered at a time the coal industry is coming out of a bad year. While production has been off 25% from 1957, by the end of the year this is expected to narrow to 19%.

In addition, coal men anticipate a much improved 1959. If Lewis feels this way, too, the signs of a new contract will be proved correct.

Big Unions Sparring Warily

Major conventions find a widespread shift to the defensive, with the protection of recent gains getting the stress instead of a clamor for new, bigger things.

Union policies and strategy drafted in a number of major conventions recently show a common and significant theme of defensive militancy. There is an apparently growing spirit of wariness—of the economy, of employers and political pressures, and of public resentment against labor based on the revelations of the McClellan hearings.

To the unions, this means the necessity of fighting to preserve gains won in past years rather than, under present and adverse conditions, pressing on to enlarge past gains and pioneer new ones. It means a go-slow approach and, if possible, avoiding conflict.

• **Gloomy Reports**—For the most part, union officers' reports to conventions show forebodings. They talk of defensive struggles, not offensives. And, they paint gloomy pictures of what might lie ahead.

Three weeks ago, Pres. David J. McDonald of the United Steelworkers warned of the "twin menaces of an all-out attack on unionism and a deep recession." Conventions that followed that of USW in the last two weeks echoed this warning. One of the strongest of its repetitions, voiced by Pres. James B. Carey at the International Union of Electrical Workers convention in Philadelphia, accused business and industry of "cultivating this recession," in the hope of "ripping the labor movement to pieces in bargaining relations and through legislation."

Because of today's conditions, unions reported, organizing gains have been slight—if any. Income has been cut because of high unemployment levels. Bargaining has been more difficult. Still, in the words of McDonald, there has been no lasting damage to "labor's efforts to achieve greater goals."

• **Five Conventions**—Five major conventions in September can be summarized in this way:

The United Steelworkers voted McDonald overwhelming support and strengthened his bargaining position for 1959 (BW—Sep. 20 '58, p. 135). Delegates voted to expel "dual unionist" critics of the administration. McDonald emerged from the sessions stronger than he has ever been. But, despite the unanimity of voting, there were signs of concern over the increased centralization of power within the union—and a feeling that driving the opposition underground did not solve anything.

The Sheet Metal Workers, with the solid backing of the AFL-CIO Building & Construction Trades Dept., adopted plans for stepped-up organizing—to include workers in industrial plants as well as in production and fabricating shops, and to take in those working on plastics and other materials used instead of sheet metal. The expanded organizing program will inevitably mean jurisdictional conflicts with industrial unions—and new tensions in AFL-CIO. The conven-

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"... the Electrical Workers problem was to sell the members a GE strike that they didn't want ..."

STORY starts on p. 100

tion, worried about "shrinking" employment levels, set a 30-hour week at 40 hours' pay as its top demand when new contracts are negotiated. Delegates O.K.'d a 50¢-a-month hike in the international's per capita, to cover increased costs—and bolster income.

The International Union of Electrical Workers met in the midst of deadlocked bargaining with General Electric, and with its negotiating position undercut by votes against a strike authorization in several key locals. Officers cautioned against internal divisions, sidestepped immediate strike measures and denounced GE as "behind the attack on all unions" (BW—Sep. 27 '58, p. 39). The union planned stepped-up organizing, particularly in Puerto Rico and the South, and a campaign to "complete the rout" of the United Electrical Workers.

The Oil, Chemical & Atomic Workers took steps toward a proposed merger with the International Chemical Workers, to form "one big union" in their expanding field (BW—Sep. 20 '58, p. 137). There was some opposition—and skepticism. Delegates rejected a proposal to increase dues \$1 a month, but approved a 50¢ hike to \$2 a month after strong appeals by their officers.

The United Rubber Workers also planned expanded organizing in Puerto Rico and, nationally, in tire-recapping shops employing an estimated 10,000—mostly unorganized now. A perennial issue—a standard 30-hour week in the industry—came up again, but routinely, as delegates voted to "intensify . . . efforts to negotiate a 30-hour week, with no loss of take-home pay." The usual heat was missing from the discussion. Locals in Akron and in Los Angeles and Detroit work a six-hour day but, despite wage differentials in their favor, members get less take-home pay than fellow unionists on the standard 40-hour week. This has engendered dissatisfaction in the past, and still does—but with less heat.

• **Focus on IUE**—Once the Steelworkers convention was out of the way, with its publicized prospects of troubles for McDonald proved unfounded, attention centered on the Electrical Workers.

IUE, now grown into a union claiming 425,000 members in 479 locals, is currently embroiled in bargaining with GE and Westinghouse Electric.

IUE's contracts with the two biggest companies in electrical manufacturing run to Oct. 1, 1960, but are open this year on "employment security" questions. Early in September, GE turned

down eight proposals by IUE and countered with a savings-investment plan (BW—Sep. 6 '58, p. 54). Smaller unions in the GE system have accepted the GE offer, which now covers more than 106,000 factory workers, but IUE and a number of others hotly rejected what Carey called a "Ponzi program" under which workers' deferred cash gains due under the contract over the next two years would be used to finance a contributory savings plan.

• **Anti-Strike Vote**—In the course of stalemated bargaining, with Carey and the union's GE Conference Board talking in tough terms, IUE members in three large locals—in Schenectady, N. Y., and Pittsfield and Lynn, Mass.—voted against a strike authorization. That barred the union from the two-thirds majority necessary for a walkout, and yanked some of the teeth out of the IUE negotiating machinery.

The convention met with that background. According to one spokesman, the problem leaders faced was "to sell the members a GE strike that they don't want by making it clear, somehow, that we don't really intend to strike."

! The strategy was to make a lashing attack on GE and its bargaining policy and to chide "the disinterested and the weak of heart" for their lack of dedicated backing for a job that "must be done if we are to protect the wages, the hours, and the working and living conditions of all IUE members."

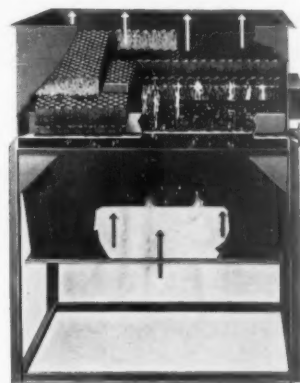
"All of you have monkey wrenches," Carey told delegates. "Watch out you don't throw them in the wrong direction."

The union voted for continued negotiations in October, after a strike deadline, but avoided talking of a new date for a possible walkout. Intimating that new votes might be taken in recalcitrant locals, Carey said, "If GE gets the idea that we don't have the votes for a strike, they'd better get their Univac fixed."

• **Changed Rules**—To make strike authorizations easier in the future, delegates approved changes in the constitution to allow conference boards (which negotiate master terms for a company) to call a strike on the basis of a majority vote.

Despite the continued talk of strike action against GE, there were behind-scenes indications that the union would stand pat on the present contract—with GE members collecting the 3½% raise (roughly 5¢ an hour or more) due this year and in 1959—until or unless there is some change that will give the union a bargaining advantage. **END**

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In Labor

. . .

Hoffa Sets Up Machinery to Extend Teamsters Jurisdiction Into Plants

The International Brotherhood of Teamsters will now organize production workers in any plant that has its own trucks or that is connected in any way with the transportation industry. An Industrial Div. has been established in IBT's Central Conference, headed by the union's president, James R. Hoffa. Similar divisions will be set up in the Southern, Western, and Eastern Conferences.

Although Hoffa said in Chicago that IBT doesn't plan to "raid" industrial unions, he estimated that the new field of jurisdiction "has the largest potential (for membership) of any division in the international union." He believes that "easily 250,000 workers" can be signed up.

The union already has 100,000 members working in factories, machine shops, and motor rebuilding plants. But, up to now, the Teamsters hasn't made any serious national effort to take in industrial workers. It intends to use its reserves of money and organizing manpower to this end.

According to Hoffa, first targets will be large companies that have their own fleets of trucks and whose production workers aren't organized. There "shouldn't be any conflict" with AFL-CIO's Industrial Union Dept., headed by Walter Reuther, Hoffa says. The IBT won't "pick a fight with IUD unions—and we don't expect them to pick a fight with us, either," he says, adding, "Say no more."

Hoffa's Central Conference of IBT represents 600,000 Teamsters members. It's particularly important as the model of what Hoffa plans for the IBT as a whole. So, it's significant that the conference also committed itself last week to coordinated negotiations for companywide, areawide, and nationwide contracts. Under Hoffa, this can be expected to be an objective for the Teamsters.

. . .

NLRB Switches Signals to Clarify Rulings on Representation Elections

The National Labor Relations Board has come up with a series of important changes on the contract bar issue—spelling out new rules on when and how a rival union can challenge an incumbent union's right to represent employees in a particular plant.

The decisions are aimed primarily at clearing out old rules to allow speedier handling of representation cases. Too, they are designed to permit union changeovers, or attempts, without interfering with negotiations at the end of a contract.

The key changes provide:

- A turnabout in the old rule that required a rival union to file an election petition within 90 days from the end of the contract. On the theory that this inter-

rupts bargaining, the board says that such petitions must be filed at least 60—but not more than 150—days before the contract's termination (DeLuxe Metal Furniture).

- Rival unions may file for representation elections after two years of a contract—no matter how long it may run. Previously, the board had allowed contracts up to five years without interruption if they were dominant in an industry (Pacific Coast Pulp & Paper).

- The 10-day rule in which a rival union could file a representation claim before the incumbent union negotiates a contract—and which allowed it to file a petition 10 days later—is eliminated. The petition must be filed before the new contract (DeLuxe Metal Furniture).

. . .

Deferred Raises Give Can Workers, Others 7¢ to 10¢ More This Month

Automatic wage increases due this month under long-term contracts raised pay of thousands of workers in can, machinery, and other industries 7¢ to 10¢ an hour—in the range of the pay terms of new auto contracts.

The three-year contracts negotiated in Detroit have underscored the growing significance of extended labor agreements with deferred raises. Last year, three of every 10 major contracts signed were for more than a year. The trend is continuing.

Of the deferred-raise pacts in effect now, roughly one-third give annual raises of 6¢ an hour or less, with very few under 4¢. Of the remainder, the biggest concentration is in a 7¢-to-9¢ bracket; a few less in a 10¢-to-12¢ range; and a substantial number (about one-sixth of all deferred increases) for 13¢ an hour or more.

The figures do not include cost-of-living increases.

During September, deferred raises of 7¢ an hour to 120,000 packinghouse workers brought their total gain in the first two years of a three-year contract to 38¢ an hour, in seven jumps. Of this, 13¢ was in c-o-l adjustments.

Dock Peace in Puerto Rico

Businessmen who ship between Puerto Rico and the mainland are pinning hopes for uninterrupted traffic on a three-year contract signed by the island's Steamship Assn. and the International Brotherhood of Longshoremen (AFL-CIO).

The IBL agreement contains "guarantees" against the recurrence of dock walkouts that have long plagued island shipping. It will add 30¢ an hour to wages and 10¢ in fringes over the three years.

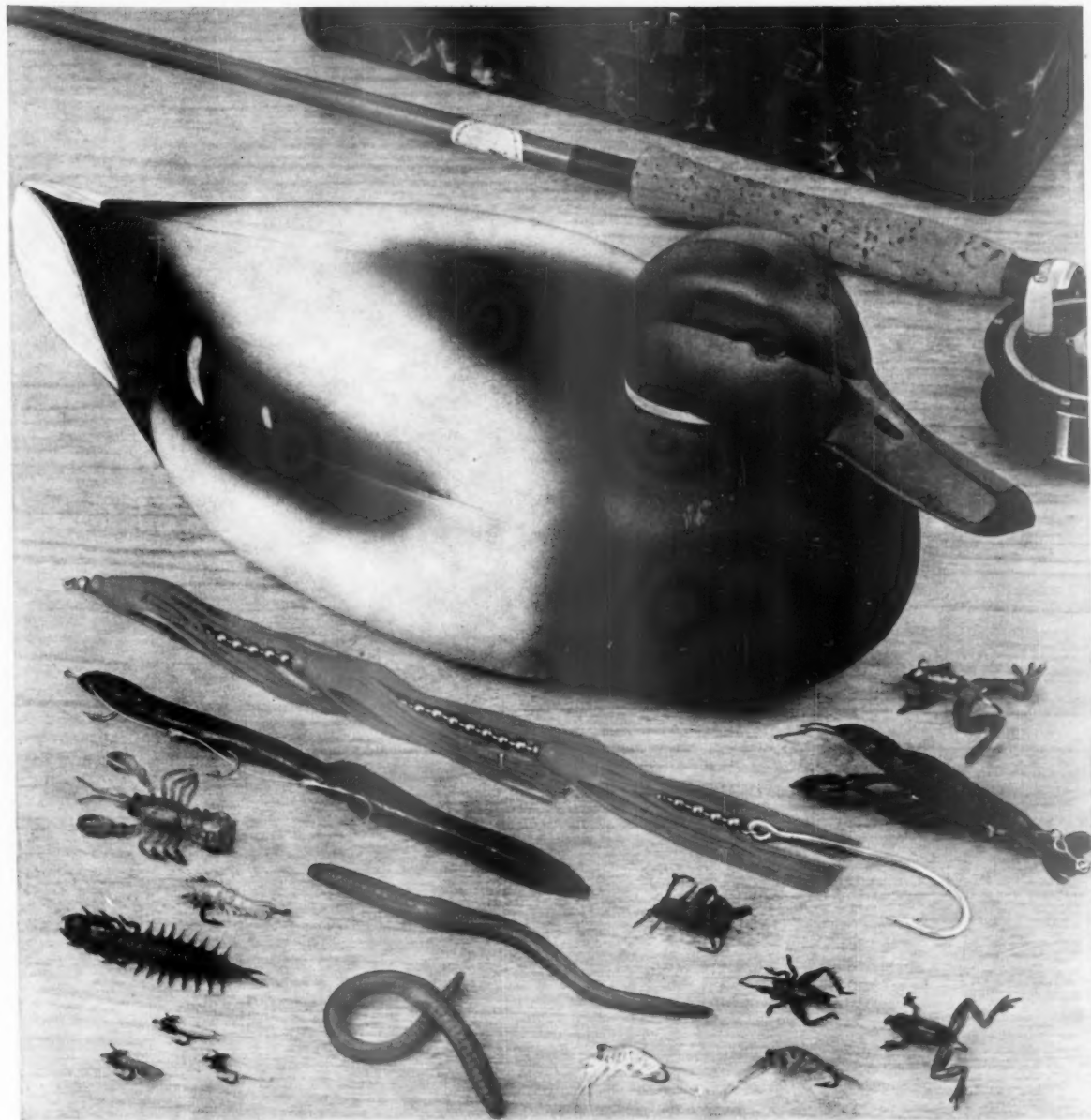
AFL-CIO Organizers Win Raise

AFL-CIO found itself on the other side of a contract settlement recently. As an employer, it signed an agreement with its organizers' Field Representatives Federation, giving \$10 raises, to \$140 a week; a union shop and check-off of dues, and grievance machinery.

At first, AFL-CIO refused to recognize the employees union. A National Labor Relations Board order required it to bargain "in good faith" with the FRF.

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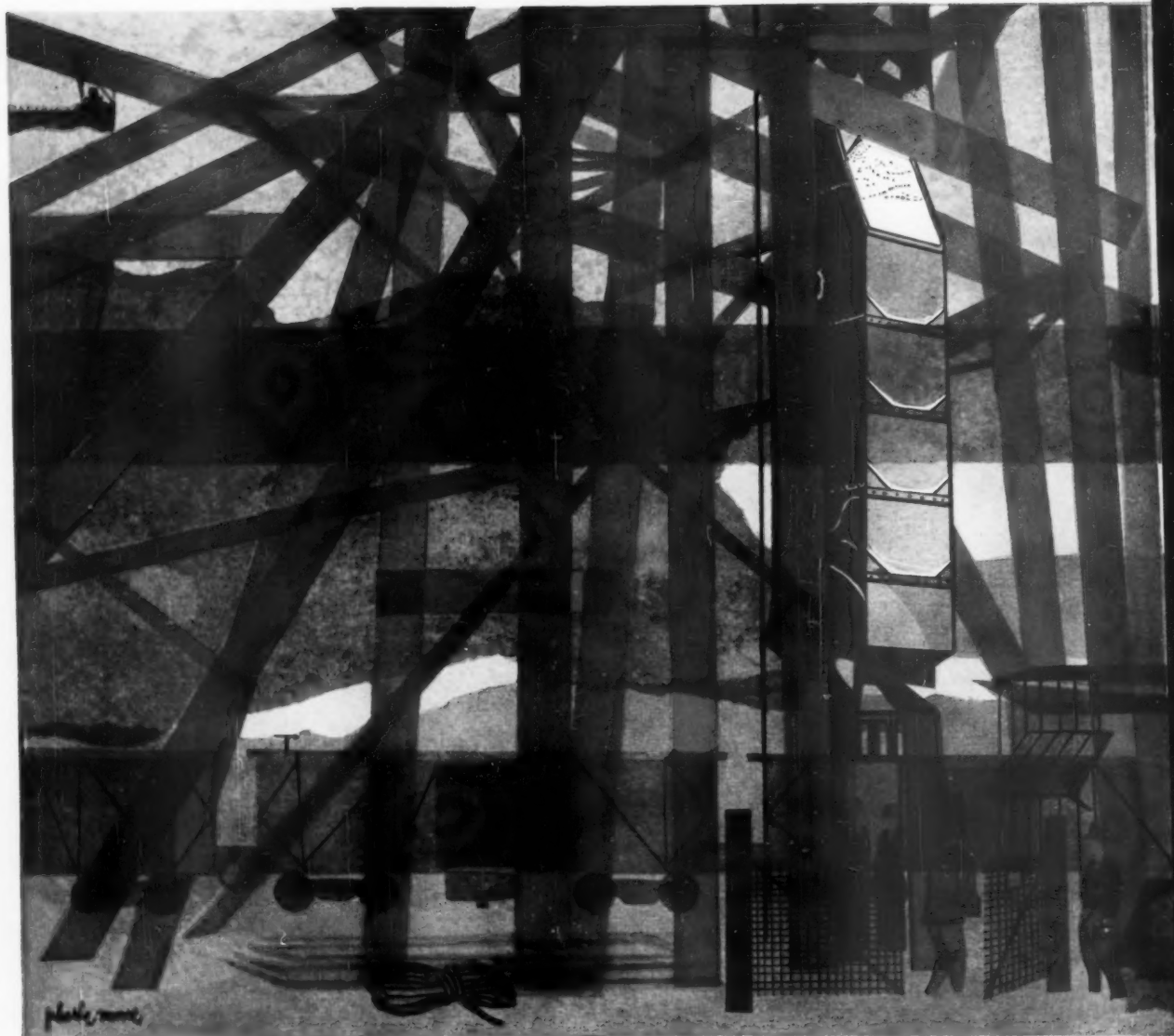


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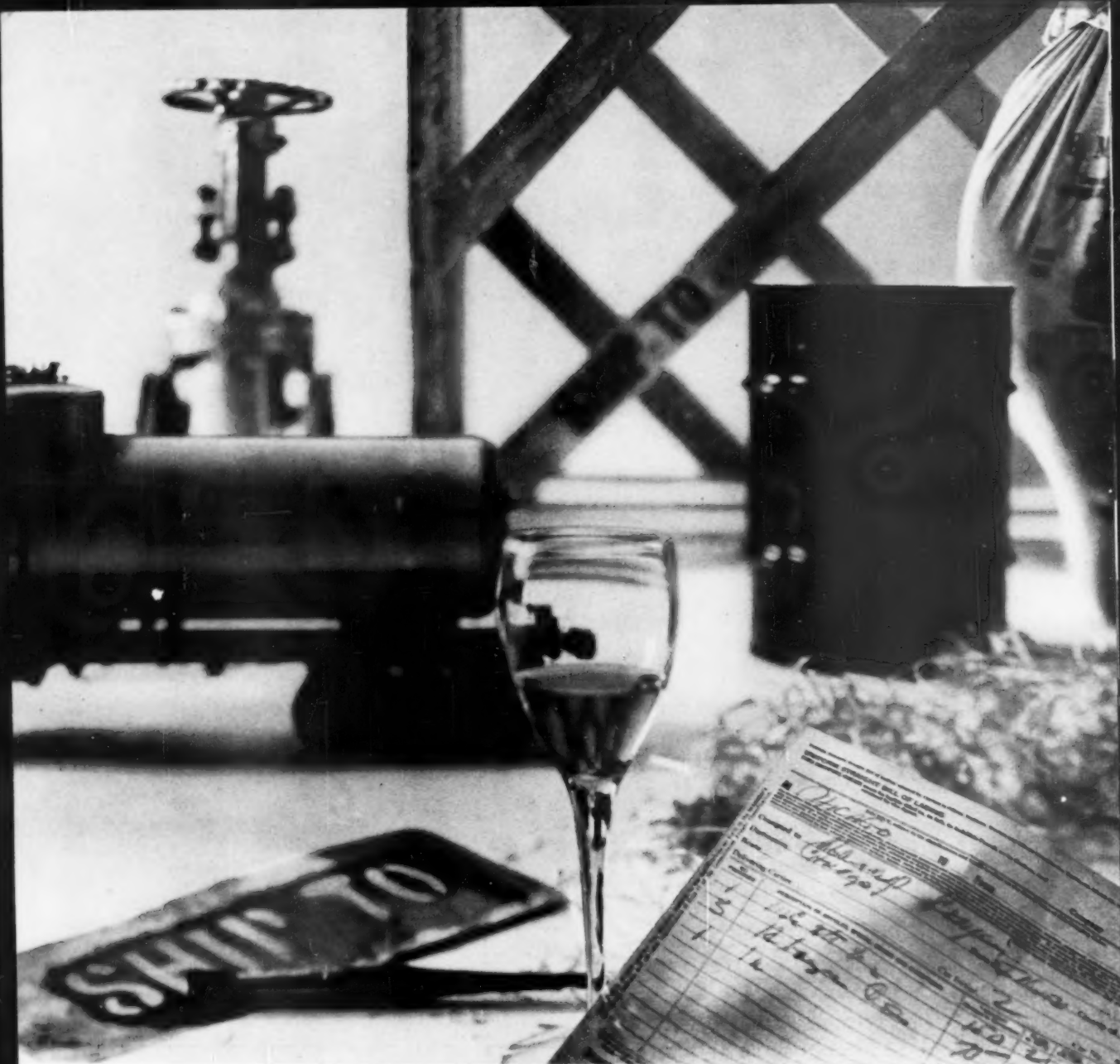
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PERSONAL BUSINESS

BUSINESS WEEK
OCT. 4, 1958



Buying a 1959 car this year? If you are, be sure to take a close look at the accessories available.

The big cars are likely to have many of the new accessories as standard equipment. But for the smaller, lower-priced car, it's quite common for optional accessories to run as high as \$1,000 or more.

Here's a rundown of a few that will be showing up on the new models:

Biggest advance is in seats. One or more models produced by American, Chrysler, Ford, and General Motors will have "split" front seats—a little like the bucket seats in sports cars. This gives the driver and his front passenger separate seat adjustments, so that they can sit comfortably together.

This may prove quite a boon, with seats down to nearly cushion-level to allow for low roof lines. American will go a step further, offer separate, detachable foam rubber headrests, mounted on the backs of the front seats. And you may know about Chrysler's new idea—seats that rotate outward for easier access (BW—Sep. 6 '58, p. 32). Ford and GM will offer split seats only on a few high-priced models.

"Splits" probably will run around \$50 in low-priced cars, and will be standard in some expensive lines. As accessories go, the split seat looks good.

Chevrolet is turning back the auto clock 20 years and offering an optional straight gear shift control, with the shift lever mounted on the floor (\$200 or better, in V-8 models). Object: to give the owner a dash of sports car atmosphere—a la Corvette.

An inside rear-view mirror that flicks downward automatically when the headlights of the car to the rear get blinding will be a new Chrysler accessory (around \$25); and you'll see more models with outside mirrors that can be adjusted from the inside (also around \$25).

Speed control and warning devices, introduced last year, will be popular, too—though here you get some pros and cons on performance. The control device, now offered by Cadillac and Chrysler, may be well worth your money—it maintains a preset speed up and down hills and along straightways (around \$80). It's especially good for turnpike driving.

The warning devices are less expensive—and maybe less satisfactory. Their abrupt buzzing and light-flashing can be unnerving, particularly in fast, heavy traffic.

Shifting to the more familiar optional extras—usually standard on luxury models—here are a few pointers:

- **Power brakes.** Along with power steering they are made increasingly necessary by the adoption of low-pressure 14-in. tires, which turn hard (about \$40).
- **Power steering.** The new cars will offer the "full-time" type, with constant operation—instead of the type that requires heavy steering pressure to actuate. Experience has shown "full-time" to be somewhat more acceptable (\$70 and up, unless standard).
- **Push-button transmission.** Two cars that offered push-button control are going back to levers—maybe because of driver complaints. However, two others will retain push buttons. (Chrysler will go all out on the button idea, and offer push-button heaters and air conditioners.)
- **Air suspension.** The idea has proved disappointing. Drivers complain of service problems, excessive rolling in turning, and high initial cost (\$125

PERSONAL BUSINESS (Continued)

BUSINESS WEEK

OCT. 4, 1958

to \$220). Ford and Lincoln have dropped it; Buick, Chrysler, and Rambler will offer modified versions, on rear springs only.

- **Fuel injection.** Highly touted a few years ago, it will be retained only by Chevrolet in 1959. Main complaint: high initial cost.

- **Small comforts.** Tinted glass is nearly a "must"—considering the vast areas of glass in modern models (about \$30). Air conditioning will be more popular, and improved (around \$400). Power windows and seats (\$150-\$200 combined) will gain, especially in expensive models—despite complaints on performance. The so-called six-way power seat seems to be more troublesome than the four-way.

—●—

Annual fund raising for the United Fund or Community Chest in your town is now getting under way. If you've volunteered to help locally, here are some do's and don'ts that may prove useful.

Most likely you'll be soliciting company gifts from other executives, and in most instances you'll know the men whom you'll call on. Campaign chairmen usually will give you four to seven companies to approach, and chances are they pick firms where you may have entree. This works out to about 16 hours of work over a three- to four-week period.

Attend the training sessions, so you'll be thoroughly familiar with the budgets and needs of the participating agencies, as well as the all-important tax angles of company giving. Agency tours, when offered, should be taken, to gain knowledge of the various fields of service. Usually three or four are scheduled, lasting about an hour each.

Experienced solicitors advise arranging your appointments personally—rather than having your secretary make them for you.

Also, it's a good idea to tackle the easiest prospects first—those companies known for generous participation. You'll have greater enthusiasm plus "sales" ammunition for subsequent calls. During the first phone conversation, refer to literature sent in advance of your call (usually by campaign headquarters). It's also well to send a follow-up letter confirming the appointment and pointing out new campaign developments.

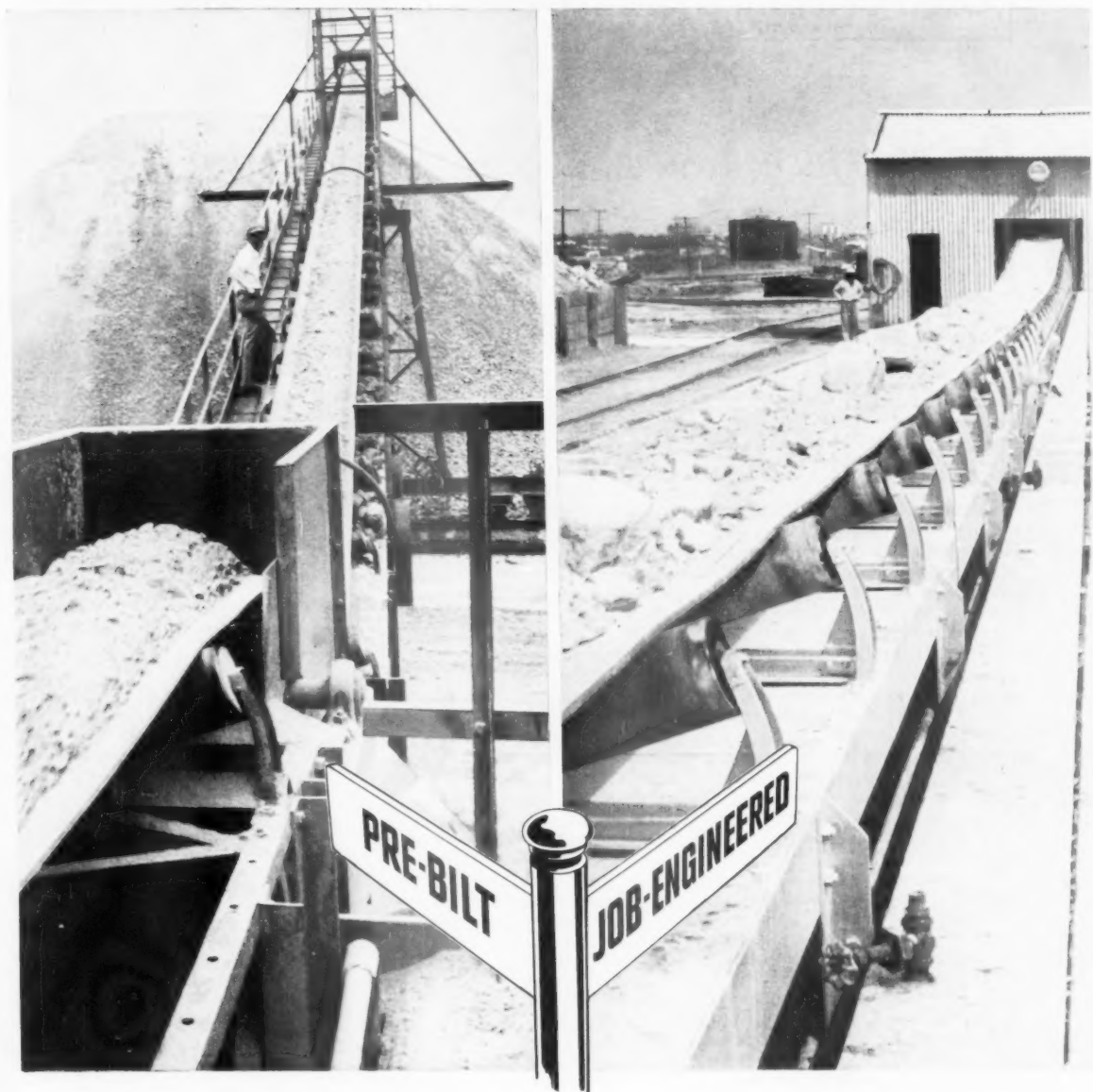
If you don't get a pledge on your first call, don't leave a pledge card. It's far better to keep the card with you, write a thank you letter, then make another appointment after he has had time to discuss a possible contribution with others in his firm. Above all, don't turn the soliciting over to your assistant. Stay with the project yourself. Your efforts will be more fruitful if you attend report meetings, usually held at lunch time, and follow campaign news for a new sales pitch.

You may find yourself a city team captain, section chairman, or division head. These posts usually take up much more time, 35 to 40 hours, with the work extending over a longer period.

—●—

Potpourri: Designed to make your next business trip simpler is an attache case to hold a battery-powered Dictaphone Dictet tape recorder (Mark Cross, 707 Fifth Ave., New York 22, case only, \$104.50; equipped, \$433.19). . . . Wondering where to go bird hunting? The Sportsmen's Service Bureau's directory lists 305 preserves in 36 states and 3 in Ontario; write to SSB, 250 E. 43rd St., New York 17. . . . For keeping itemized records of current business expenses, you'll find useful a new pocket-size booklet in a vinyl wallet (Trav-Ex Co., Inc., 550 Fifth Ave., New York 36; 75¢).

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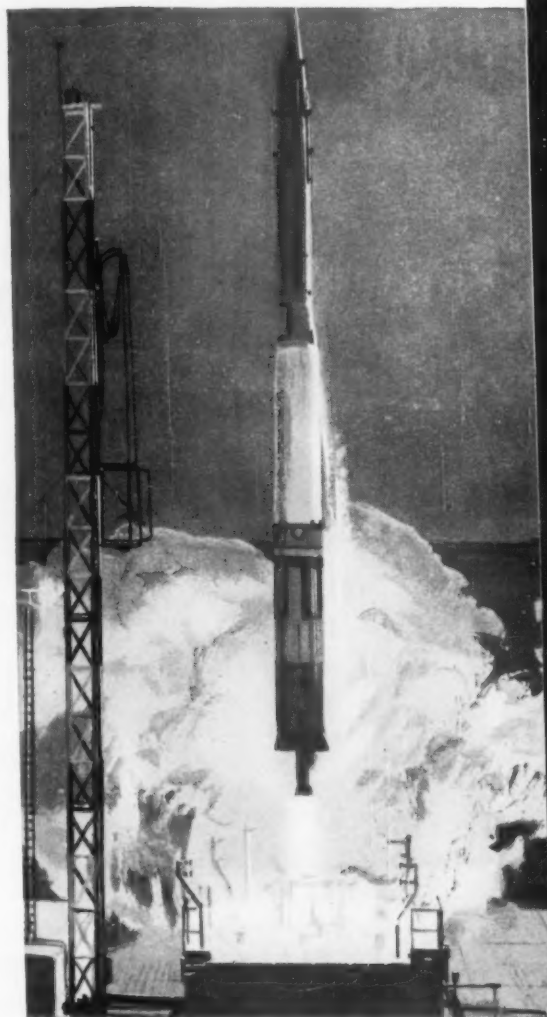
All steelmaking is the art of controlling basic physical and chemical changes, from the molten metal to the finished steel product. But when alloying elements are added to create steels for special purposes, these otherwise ordinary changes become exceedingly complex. Every phase of production influences the character of the finished product.

It takes exacting skills developed by many individual workers to apply the controls necessary in making these finer, special purpose steels. As the nation's leading producer of these types of steels, Crucible has acquired just those skills. And these are applied, not only in producing the higher-alloy-content steels, but also in making the more ordinary types of steels. It is these non-automatic aspects of steelmaking that set Crucible apart — that result in a degree of product uniformity that is unsurpassed in the steelmaking industry.

For example, it is standard practice in melting tool steels at Crucible to make a complete and accurate analysis of the molten bath within less than seven minutes of actual pouring time. And pouring temperatures are controlled to within plus or minus 15 degrees even in 20,000-pound furnaces. All steel is subjected to nine different quality checks from ingot to finished product. In vacuum melting practice, Crucible controls certain chemical elements to within a few parts per million. Alloying elements are added to within plus or minus an ounce in 3,000-pound heats.

One more fact helps explain the special nature of Crucible's steel production. At any Crucible mill, such a variety of items are in production at any given moment that every man involved — be he metallurgist, supervisor, foreman or worker — must know the exact specifications and exercise control accordingly. Thus Crucible's production force is both custom-trained and customer-oriented.

If you would like to discuss your metals requirements with a specialist, why not contact one of Crucible's 27 branch offices and warehouses? For the address of the one nearest you, or for data on any Crucible product, write *Crucible Steel Company of America, Dept. MJ05, The Oliver Building, Mellon Square, Pittsburgh 22, Pa.*



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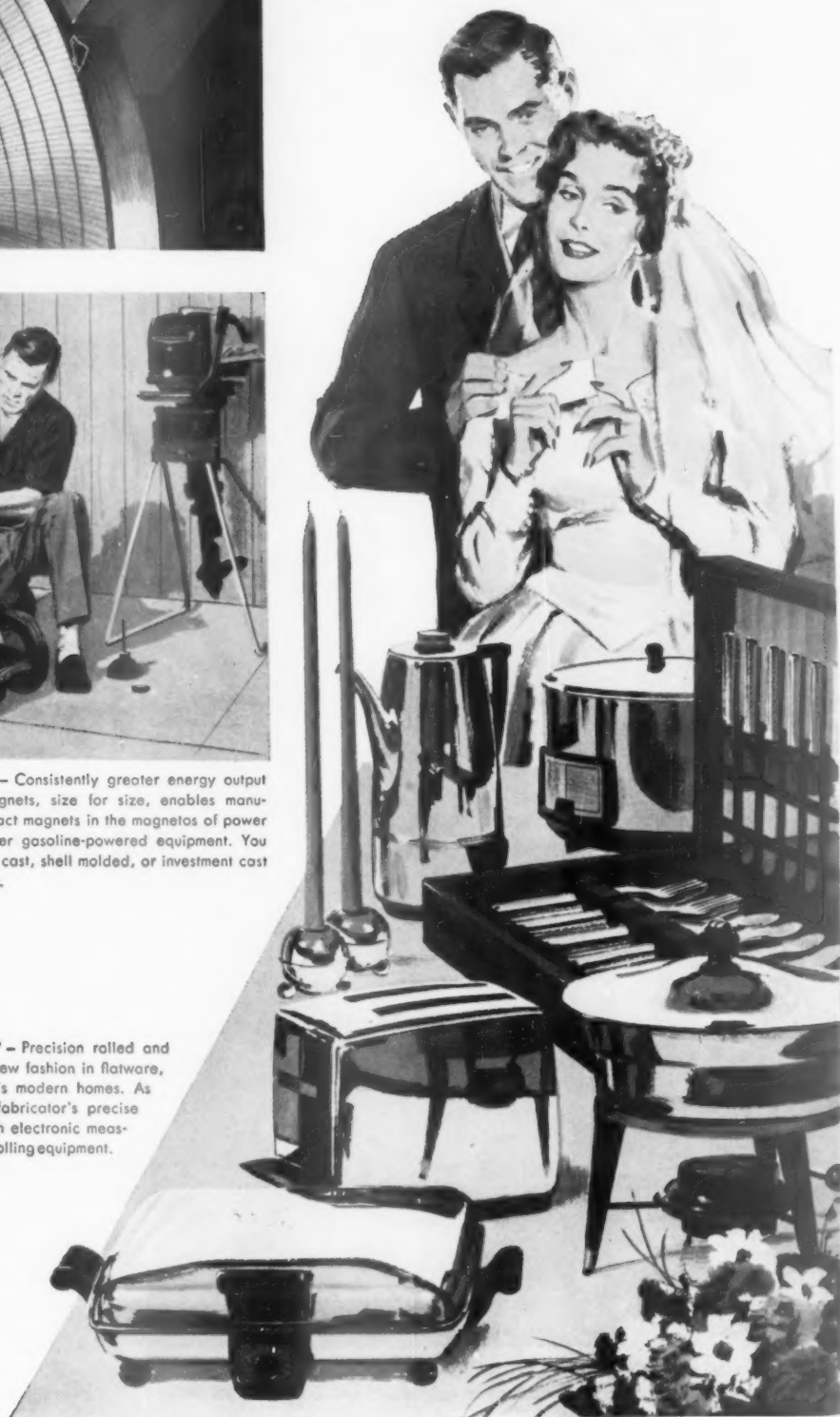


TOOL AND DIE STEEL - Forming this precise pattern in a grinding wheel mold and retaining it without distortion through heat treatment is easily accomplished with Crucible Airkool-S.® This tough, sulphur-bearing, air-hardening steel is much more abrasion-resistant than typical oil-hardening tool steels, and is substantially tougher than high-carbon, high-chromium types, yet it is easily machined.



PERMANENT MAGNETS - Consistently greater energy output of Crucible Alnico permanent magnets, size for size, enables manufacturers to use smaller, more compact magnets in the magnetos of power mowers, outboard motors, and other gasoline-powered equipment. You can now order these magnets sand cast, shell molded, or investment cast to every size and tolerance needed.

STAINLESS STEEL STRIP - Precision rolled and processed by Crucible creates a new fashion in flatware, cutlery and cookware in America's modern homes. As Crucible makes it, it's rolled to fabricator's precise specifications and kept uniform with electronic measuring controls on the most modern of rolling equipment.



3M's Way: Patents Plus Labs



PATENT LAWYER examines new products in early stages for patentable features; this is bolt of non-woven fiber 3M is test-marketing as commercial and domestic dust cloth.

Minnesota Mining & Mfg. builds on this formula: an unfilled market, a new product to fit it, a patent to protect position.

In an era when such phrases as market domination, price maintenance, monopoly, have become downright unfashionable, at least one company—Minnesota Mining & Mfg. Co., better known today as “3M”—not only uses them proudly, but as a very basis for its corporate existence.

To William L. McKnight, its chairman—who at 70 has largely delegated operating responsibility, but who shaped 3M into its current form and is still very much its voice—and to Herbert P. Buetow, its president, the legal monopoly provided by patents is a primary tenet of corporate life.

And at a time of rapidly advancing technology—when more and more U.S. companies are drifting away from reliance on patent protection into emphasis on cross-licensing and patent pools, counting on marketing strength and production knowhow to protect their positions—McKnight and Buetow (cover and pictures) plan to fight even more forcefully for “patent monopoly” on 3M’s products.

- **Broad Field**—Minnesota Mining is perhaps best known for Scotch Tape—a brand name that has become almost generic for all pressure-sensitive cellophane tapes. Actually, it makes some 40 different product lines, 25,000 separate items.

It is easily the leader in the adhesive tapes field; it also heads the pack with a wide range of abrasives and industrial adhesives, coatings and sealants. It’s an important supplier to the building materials industry. It furnishes lithographing plates to the graphic industries. Included in its output are such divergent items as ribbons and laces, office duplicating equipment, reflective sheeting, magnetic tape for sound and television recording, chemicals, electrical insulating materials, and plastics.

- **Formula That Works**—But regardless of the variety of products, a central philosophy underlies them all:

- Find an “uninhabited” market where an unfilled need exists.
- Develop a product to fit that market, and get strong patents on it.
- Protect a monopoly position fully—by licensing if advisable, by litigation if necessary.

Obviously, the formula works. 3M officials quite seriously call it “a lea-



PRES. HERBERT BUETOW (standing) and Chmn. William McKnight (right) plan a move with graphic products' head, Bert S. Cross.



300 KINDS OF TAPE—from "Scotch" to sound—are shipped from St. Paul plants.



MAGNETIC tape, used for music, TV, computers, gets the ear of pioneer, Dr. W. W. Wetzel (right) and its research manager, R. S. Von Behren.



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year" when profit margins are not better than 10% after taxes. (Its 1957 net earnings ran 10.7% of sales, compared with 4.8% for the average of all U.S. manufacturing companies.) Its sales have a habit of just doubling every five years—rising from \$3.5-million in 1932 to \$370-million in 1957. On that basis, the company sees little trouble in breaking into the billion-dollar club within a decade.

And since the formula works, 3M intends to continue to abide by it. If anything, it plans to intensify the "protection" aspect of its patent protection policy, even if that means going to court a lot more often at a time when both political attitudes and court interpretations have tended to erode patent monopolies.

I. Patent Strategy

Minnesota Mining goes back to 1902, when it was formed to mine corundum (hence the "Mining" in its name). When that flopped, it turned to making sandpaper. Its real growth, however, started with the introduction of pressure-sensitive masking tapes in the late 1920s and of "Scotch" cellophane tape in 1931.

Its patent-mindedness goes back nearly as far. McKnight, who joined up as an assistant bookkeeper in 1907, had become by 1914 general manager in charge of production and sales. In the intervening years, he'd found himself saddled with an inferior sandpaper, subject to frequent price cutting. McKnight improved both quality and sales—but in 1918, he almost got slapped down when another company charged patent infringement.

Three years later, 3M found a new process of its own for a sandpaper that could be used with water—a natural for industries that needed wet sanding, or for areas where dust from dry sanding was a health hazard. This time 3M made sure it had its own broad patent rights—and McKnight found the answer to his worry over price wars.

That, with later patents on pressure-sensitive tapes, really set the company on its way. Although those basic patents have long since run out, it still corrals some 80% of the market for pressure-sensitive cellophane tapes, and the lion's share of the waterproof sandpaper business.

• **Patent Pitfalls**—McKnight's avowed goal has been, if not clear-cut monopoly in 3M's product, at least market domination through patents, backed by licensing agreements containing strict price-maintenance clauses. But 3M has learned that there are substantial pitfalls, as well as benefits, in operating from a monopoly position.

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a patent. Legally, the patentee has a monopoly during the 17-year life of the patent. But once it's granted, anyone can buy a copy of it for 25¢, and if he wants to take a chance on a quick profit before the lawsuits catch up with him, can imitate the new product.

Thus the complexity of a product takes on major importance. Unless the patentable features are complex, require special technical abilities, and preferably involve sizable investments, a patent may not be worth applying for. Since products that can be manufactured with a nominal investment are most vulnerable to imitation, 3M's tapes have been long-standing targets. The patent on cellophane tape has been adjudicated four times in U.S. district courts, twice in U.S. Circuit Court of Appeals, and has cost 3M well over \$1-million in legal and allied costs to defend.

• **Licensor Extraordinary**—In fact, to work at all from 3M's preferred position, a company must become expert in several techniques. Litigation is one. Licensing is another. Product improvement is a third.

McKnight is sometimes referred to as William "License" McKnight (the "L" actually stands for Lester) because of his wide use of licensing agreements. But it's probable that 3M has licensed widely as much from necessity as choice. The auto industry, for example, with which 3M did much of its early business, insists on more than one source of supply for any component item. Many other companies now do the same.

• **What It Gains**—But for 3M, licensing holds some admitted advantages:

- It often avoids extensive and expensive litigation with infringers.
- In some cases, it improves the market; competitive promotion increases public interest.
- While 3M officials dislike talking about antitrust actions, they do indicate that licensing tends to soften both public and political reaction to the monopoly position the company works so hard to attain.

• And, assuming a licensee honors price-setting agreements, the danger of price wars practically vanishes.

"As long as we can control pricing," says McKnight candidly, "we are liberal-minded. After all, we could have kept the monopoly to ourselves."

• **Switch in Tactics**—But the practice of price-maintenance via licensing agreements has been steadily losing favor for the past decade as successive court interpretations have weakened the principle—and as licensees have become less faithful in the changing climate of opinion. Buetow, for one, though he insists 3M will continue "to try like the devil to patent and gain protection," expects a continued erosion of price-



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AUTOMATIC MARGINS Simple one-hand, one-step operation.	YES	NO	NO	YES	NO
SIGNAL LIGHT Positive visual indication if motor is ON or OFF.	YES	NO	NO	NO	NO
TOTAL TABULATOR CLEAR Clears all stops instantly without moving carriage.	YES	NO	NO	NO	NO
ERROR CONTROL Simplifies correction of errors and line justification.	YES	NO	NO	NO	NO
BOTTOM MARGIN INDICATOR Page Gage accurately indicates bottom margin.	YES	NO	NO	YES	NO
88 CHARACTER KEYBOARD. Standard at no extra charge.	YES	NO	YES	NO	YES
KEYBOARD SLOPE Key top slanted to fit natural movements of fingers.	YES	NO	NO	NO	NO
ROLL-FREE ACTION Releases typebar cams with no "scuffing" action.	YES	NO	YES	NO	NO
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maintenance agreements by the courts.

3M people feel strongly about this trend. McKnight insists he can see "no logic in it, when for 17 years a patent holder can set his own price, yet not do so under licensing."

But since the climate is changing, 3M is also switching its tactics. From now on, it will do considerably less licensing for a hot product, resort much more to court action to back up its products.

- **Against the Day**—Under any conditions, simply getting a patent is not enough to maintain a position indefinitely. All products at 3M are under constant scrutiny for refinements on which improvement patents can be filed. These also can be passed on to licensees—and create a competitive edge against the time the basic rights run out.

The company admits to getting a little nervous when a patent expires or is about to expire—but it hardly waits for competition to move first. "The first 10 years of patent life," says a company old-timer, "are used to launch a product and make a profit; the last seven for lowering the price to discourage competition." On one product recently, he estimates, 3M gave up some \$5-million in revenue through its pre-expiration price cuts.

- **Patents and Prices**—As long as the company is still in a strong patent position, says McKnight, "there's no reason why the profit margin shouldn't be wide." But he adds this qualifier: as long as you don't price yourself out of a market. Minnesota Mining frankly sets its price on what the traffic will bear, not on production cost.

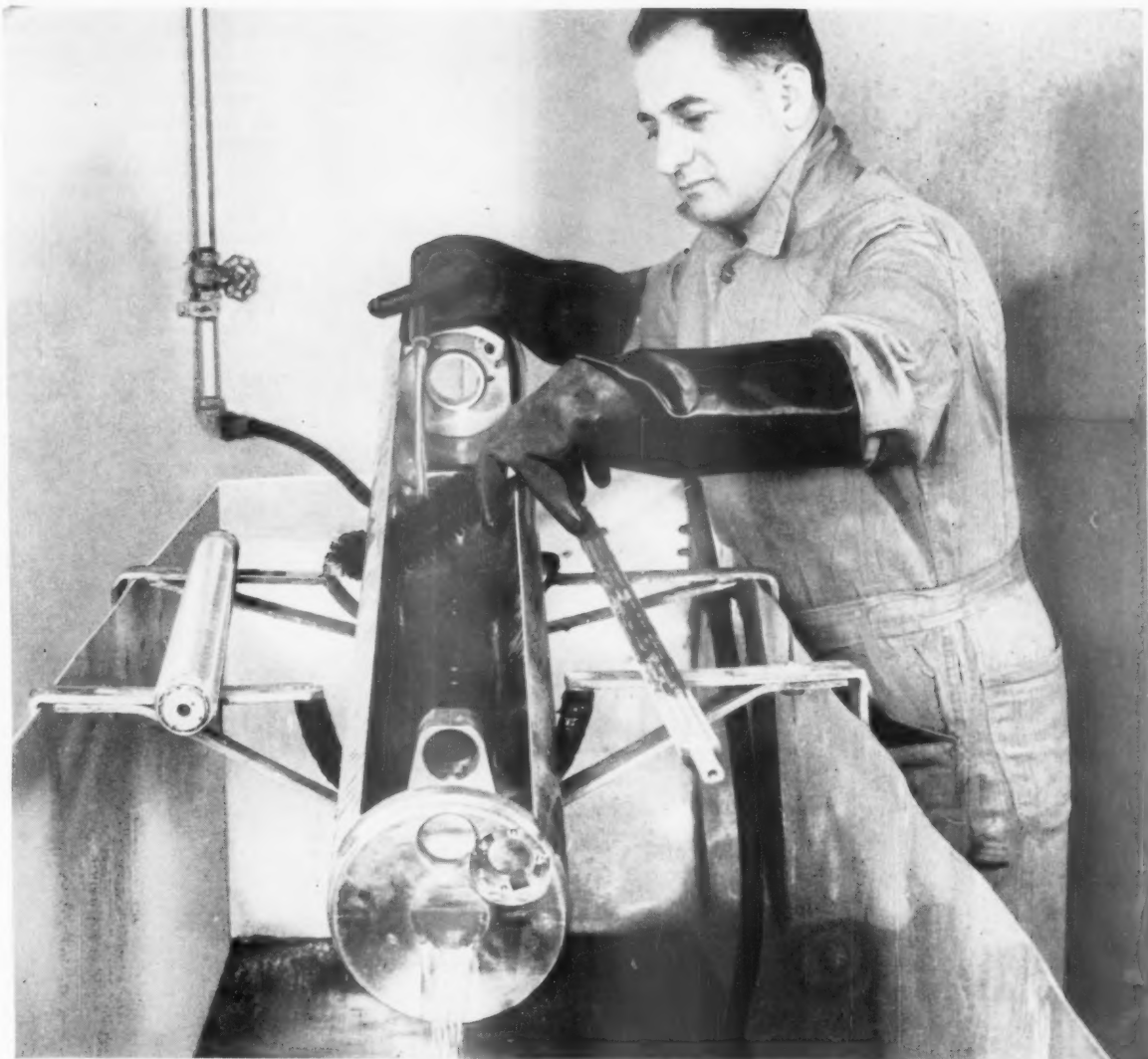
The timing of price cuts depends on the individual product. 3M was pushed into lower prices on cellophane tape several years earlier than it had planned because another company infringed; and what cost \$1 five years ago now sells for 60¢.

If competition isn't anticipated, cuts aren't necessary. When its basic patents expired on one electrical tape, 3M had only a single competitor—and expected no more. Since it offers over 40 kinds of electrical tapes, many developed for specific application at the request of customers, 3M doubted they'd switch allegiance merely because another company offered a competitive product on one of the 40.

II. Armies of Products

Obviously, a plan of campaign based on patent strategy requires forces to deploy—in the form of a steadily expanding array of products. To promote that product expansion, 3M has relied on two main supports.

Basic to the whole strategy is research—a vital part of 3M philosophy. Over 40% of current profits come from



A control rod drive housing being rinsed at Fairchild Camera and Instrument Corp. Radiological Decontamination Laboratory, Syosset, L. I., N. Y.

How to save "hot" reactor mechanisms from the nuclear cemetery

When valves, pumps, heat exchangers and other parts used in or with nuclear reactors became sluggish or clogged, they used to be taken out and buried in the ground because they were radioactive . . . and replaced by new parts. This ran into money. A single control rod drive mechanism, for example, costs \$30,000.

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ing fluids used for decontaminating are put in special containers and disposed of through licensed agencies.

But the problem of what to do with the contaminated rinse water is easily solved at Fairchild by their Permutit Nuclear Purifier. Each refill of 3 cubic feet of Permutit ion exchanger resin in this unit safely decontaminates thousands of gallons of rinse water!

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products developed in the last decade, during which 3M has put \$60-million into laboratory facilities. It pours about 4.5% of sales into research. Salesmen get a new product to sell every three months or so, practically a whole new sample case every three years.

New ideas come from the 2,000 R&D people in labs of the 30 divisions and subsidiaries, or the central research center, or the New Products Div., or the "products fabrication" lab, a casual group of 18 technicians who are "more cooks than chemists."

• **From Tape to Seeds**—Developmental work on one fast comer, magnetic tape, began in World War II. The product is still in its comparative infancy, but 3M already has half the market—even though it was beaten to the punch on the basic patent by Armour Foundation. This time 3M took, instead of granting a license—but as sole licensee to the Armour development also got involved in a patent infringement suit against C. K. Williams & Co., which brought antitrust countercharges.

The industry's magnetic tape sales of about \$14-million this year are expected to rise sharply. 3M figures the biggest market of all—for use with automation and computers—is still relatively untapped. But profit is sometimes slow; 3M has so far been sole supplier of tape for TV broadcasting but doesn't expect to turn a profit on it for another two or three years.

New products—even those that seem far afield—are likely to be close kin to existing ones. Take Grass Mat, a lawn-building carpet of seeds that was introduced this spring—introduced a bit faster than expected, due to nationwide publicity when a reporter spotted it at a university experimental station. It's actually another tape—but one that's water-soluble and studded with seeds.

Grass Mat has been under development and test for almost three years—and almost from the beginning the legal experts were called in to study its patentability. The patent hasn't come through yet, but 3M thinks the probabilities are good. Agricultural products may well be 3M's next big area of expansion.

• **Branching Out**—3M has also built up its product line by the acquisition route. Over the past five years it has picked up 10 domestic and four foreign companies. Six of the domestic acquisitions were designed to round out the electrical products group, set up in 1953, and push the company into the booming electronics industry.

3M got more than it bargained for, however, when it picked up both American Lava Corp. (technical ceramics) and Irvington Varnish & Insulator Co. (electrical insulating materials) in 1953. The company says it acquired them to get "a more complete



Caterpillar makes tracks for coal

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line of electrical insulating products." But an insider confides it really didn't expect to get both companies.

The acquisitions pricked the competition into action. "Those who had been lax became more aggressive, so even though we became more efficient, it was offset by their efforts," an official says. "And we lost customers, some large accounts, as you always do in such a shuffle."

• **Wider**—3M bought the electronics division of Bing Crosby Enterprises, Inc., to supplement its program relating to magnetic instrumentation tapes and color video tape recording. Zenith Plastics Co. was acquired in 1956 for its position in supplying reinforced plastics components for aircraft and missiles—and because it was hoped the move might speed acceptance of 3M's Scotchply reinforced plastic sheeting as a basic structural material.

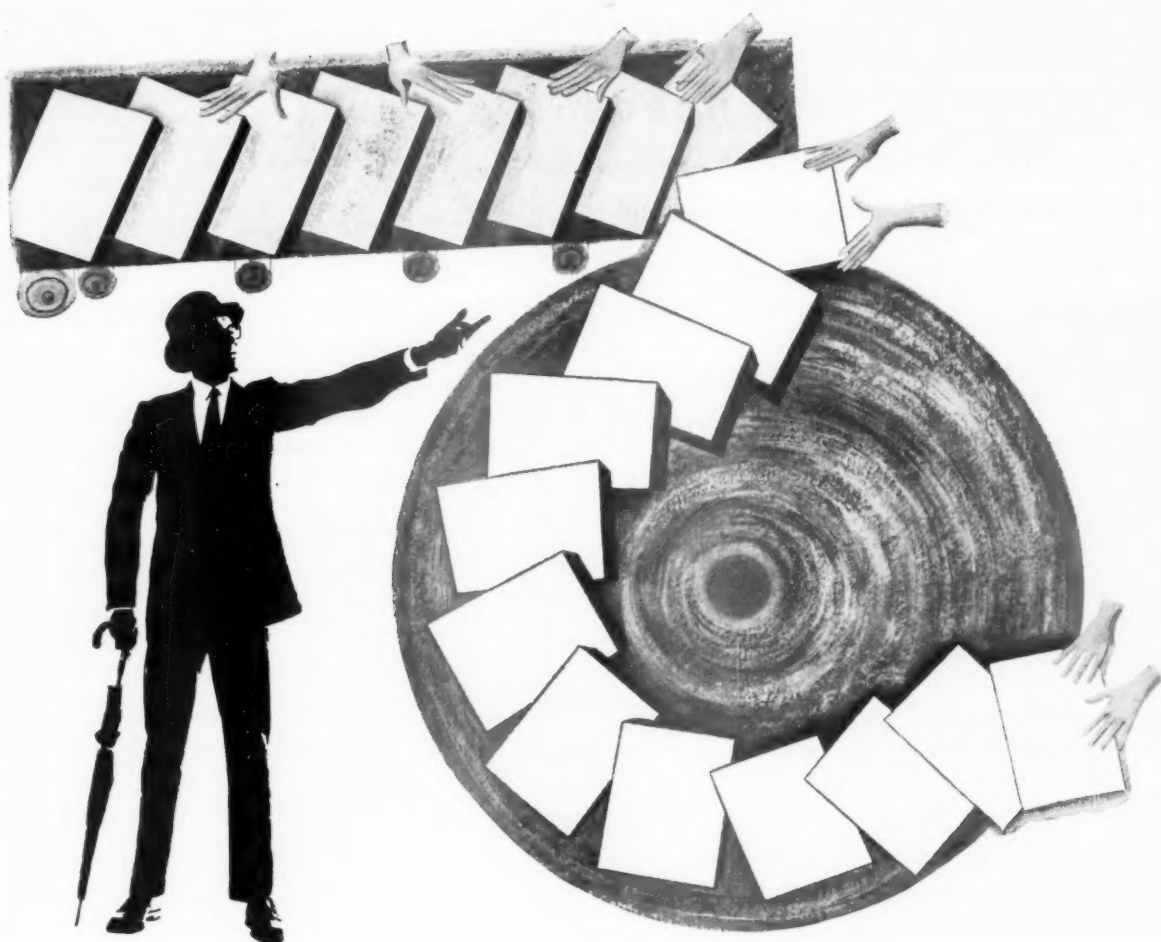
Last year KEL-F Div. of M. W. Kellogg Co. was picked up as an addition to 3M's line of specialized chemical products—with the expectation that 3M research could develop new uses for its high-temperature, corrosion-resistant resins.

Acquisition of Hartford City Paper Co. supported 3M in another field, insuring its Duplicating Products Div. of an adequate supply of basic paper stock used in making copy paper. The division makes the Thermo-Fax copying machine, but the copy paper is the real money maker.

Overseas, 3M has taken on Wilhelm H. Carstens Co., German manufacturer of electrical products; FADMA (Fabrica Argentina de Materiales Adhesivos), Argentina maker of pressure-sensitive tapes and surgical dressings; and two French abrasives manufacturers, Abrasifs 3M-Ceta S. A., and Fortin et Saunier S. A.

• **Tie-in**—Pres. Buetow points out that 3M's acquisitions invariably involve companies on which it can bring to bear its own research and development organization and programs. "We are convinced," he says, "that acquisitions by themselves cannot be the major route to growth and diversification for 3M."

• **Cardinal Rules**—Buetow represents a transition to professional management at 3M that started five years ago. He effectively controls daily operations and usually is company spokesman, but there's no doubt that 3M still means McKnight—who holds more than 9% of the outstanding shares, second only to the Ordway trust of about 10%. He is chairman of the finance committee, member of the executive committee, and ex officio member of the management committee. The company now puts strong emphasis on a committee system—but it's still governed by the



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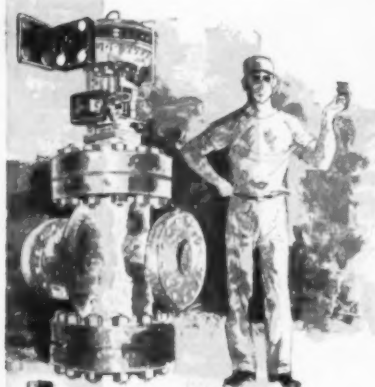
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three cardinal rules instituted by McKnight:

- An anti-nepotism policy that dates back to 1908, when McKnight missed a promotion for which he felt he was "eminently qualified" because the office manager's son got the job.

- A rule against ever going outside the company if a man inside can fill a vacancy.

- The policy of spending for research. With research, says McKnight, "there's no stopping our growth. I only hope we have the courage to continue spending."

MANAGEMENT BRIEFS

An early straw in the wind indicates that next June's college graduate will have more places to go job hunting than his 1958 counterpart. The College Placement Council, Inc., found 1,605 companies planning active campus recruiting, compared with 1,432 last year. Electrical engineers will have a shot at the most new employers (706 companies are looking for them, 68 more than last year), but chemists may have a hard time—last year 613 concerns wanted chemists, this year only 396.

Chock-Full o'Nuts, a New York restaurant chain, is giving charities a hand in a novel way. Instead of using the construction fence around its new Madison Ave. building as a giant company billboard, the company is turning the space over to local charities, five of whose ads take up 1,000 sq. ft. of space.

Management shifts at Gulf Oil Corp. leave Pres. W. K. Whiteford firmly in the chief executive spot. David Proctor, executive vice-president, moved into the vacant board chairmanship, and Ralph O. Rhoades, a senior v-p, took Proctor's old post.

In a rush of acquisitions: Litton Industries, Inc., bought Westrex Corp., a 50-nation distribution organization for electronic products, from Western Electric Co. . . . Chesebrough-Pond's Inc. picked up Vick Chemical Co.'s cosmetic business, including Prince Matchabelli, Seaforth, and Black Watch lines. . . . Alaska Juneau Gold Mining Co., recently on an acquisition splurge, added to its stable Fletcher Aviation Corp., maker of a system for in-the-air plane refueling. . . . Marquardt Aircraft Co. took over American Machine & Foundry Co.'s missile products division. . . . Textron, Inc., bought Shuron Optical Co. from Philadelphia & Reading Corp., another diversified corporation, which shed the subsidiary to get cash for "opportunities . . . closer at hand."

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Off on the Wrong Track

In his year in office, Treasury Secy. Robert B. Anderson has gained the respect of the financial community for his practical and realistic approach to his onerous job. This explains much of the surprise and dismay that followed his speech before the annual convention of the American Bankers Assn. in Chicago. For the tone he struck had an academic and unrealistic sound that was difficult to reconcile with his usual astuteness.

He attacked speculation in government bonds in terms that implied that speculation in general is an unmitigated evil. And in this sweeping indictment, he ignored the fact that speculation—in the sense of risk taking—has a vital role to play in our economy, that it is essential to a viable market. Without speculation, Anderson's own job of trying to sell long-term government bonds would be much harder than it has been to date, and the Treasury itself would be the most prominent victim of any heavy-handed attempt to exterminate the speculator.

Unquestionably there was an excess of speculation, which proved unhealthy, in the government bond market this summer. But the Treasury contributed to this excess. True, the Federal Reserve authorities are primarily responsible for the swings in the market, and have the power to moderate or exaggerate price movements. The Treasury, though, is in a position to influence monetary policy, and it did little to keep the surveys of the market from becoming a debacle.

On the contrary, both the Treasury and the Fed seemed to be inviting an excess of speculation when they allowed the kind of roller coaster movement that inevitably produces excesses.

Overdue Study

The other area in which Anderson's views appeared to depart from his normal reasonableness was in suggesting that institutional investors should support the Treasury's financing operations even if it means lower yields than are available elsewhere—if not actual losses. This appeal seemed to suggest that institutions should put aside the interests of beneficiaries in order to bail out the Treasury.

Here again, the Secretary was ignoring the fact that the institutional investors are the trustees of other people's funds, and they would be derelict in their duty as trustees if they made their holders the goats for the government's mistakes.

No one will question the need to support the Treasury in time of war. Institutional investors have proved their patriotism in every emergency, and will do so again. But in times of peace or near

peace, the idea that our institutions should volunteer to take losses for their depositors cannot be accepted by any conscientious trustee.

Anderson was in better form when he revealed that the Treasury has begun an intensive re-examination of the problems of debt management. His own speech shows that such a study is sorely needed. We are sure that a searching examination will lead Anderson and his advisers to some sober second thoughts about the highly academic views he advanced in Chicago.

Bane or Blessing?

We may well be proud of the bounty of our land and the productivity of our farmers. Crop production this year is the largest ever achieved—by a margin of more than 9%—even though the acreage harvested is the smallest in 40 years.

Cotton farmers are picking an average of 486 lb. per acre, putting completely in the shade 1955's record 417 lb. Wheat is running 27 bu. to the acre, eclipsing last year's record of 21.7 bu.

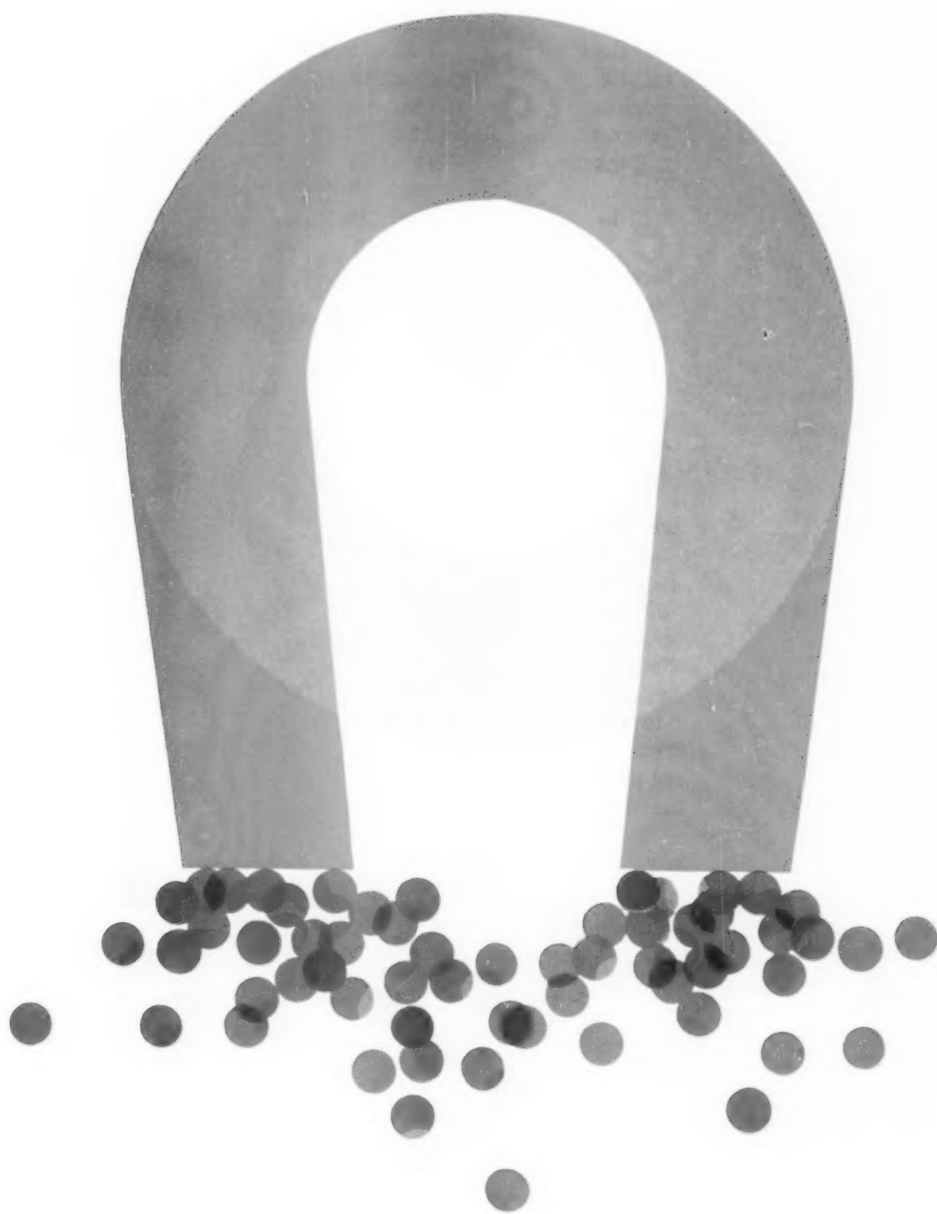
Unhappily, though, this achievement stands more as a monument to failure than success—the failure of 25 years of “doing something” for the farmer. We have merely piled surplus upon surplus.

Farmers, as everyone knows, planted only their best acres this year. The poorer ones they turned over to the government's soil bank. Weather smiled as never before in modern history, with results that are as painful as they are spectacular.

This year's golden flood of nearly 1½-billion bu. of wheat is almost three times as much as we can use; exports won't lift any major fraction of the remainder. The excess will add to the 850-million bu. of old wheat on hand. Already farmers have turned in close to 250-million bu. of this year's crop for government price-support loans, nearly as much as in all of last season. Millions on millions more bushels will pour into the loan in the next few weeks.

Similarly, this year's 14-million-bale cotton crop is at least a million bales bigger than we can count, most optimistically, on disposing of. And we still have close to 9-million bales on hand from earlier crops.

Feeding the world's underfed and clothing its underclad, liberal as our programs have been, has succeeded only in limiting the rate at which surpluses have grown. The only way out we have found up to now has been war. And it hardly seems worthwhile to incorporate periodic wars in our farm policy.



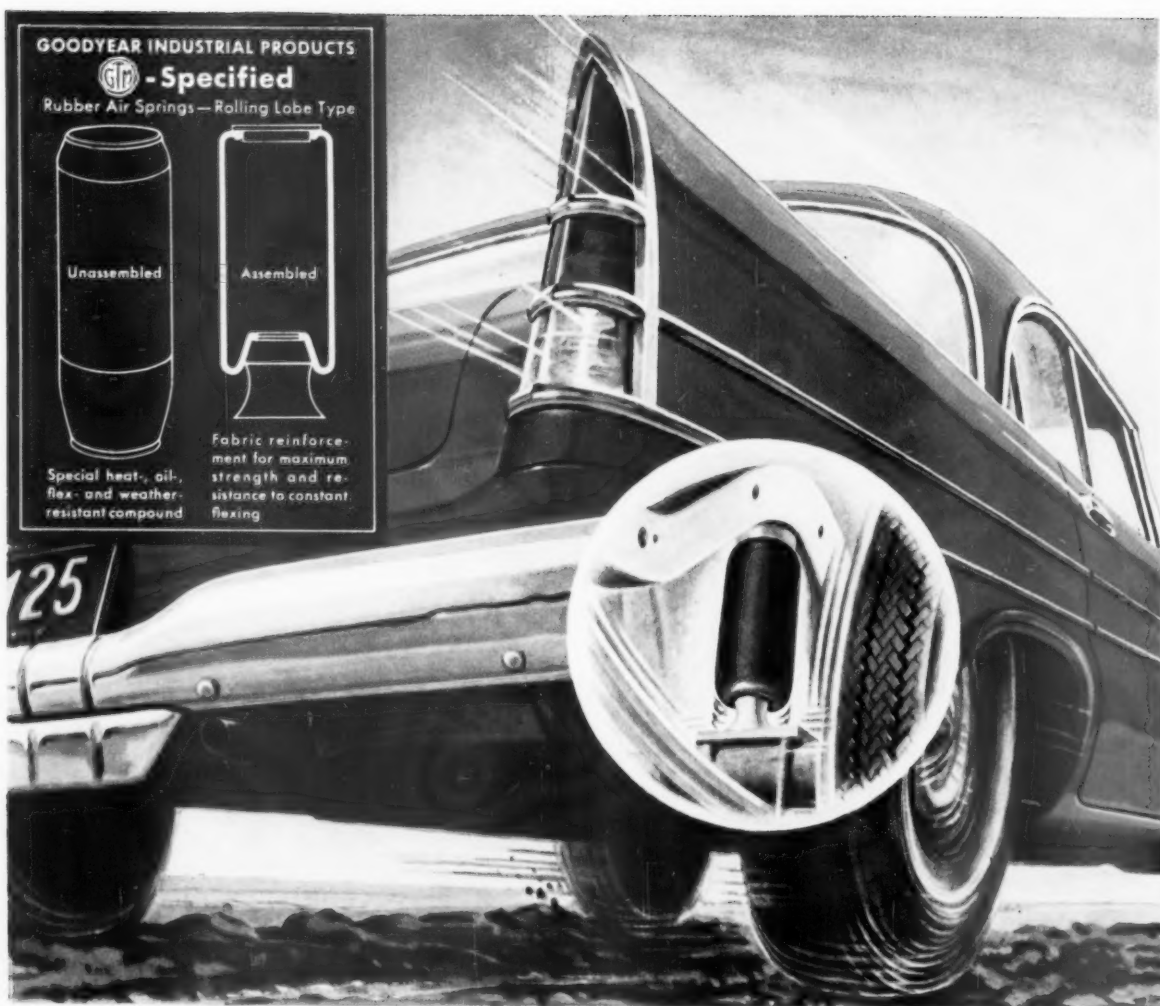
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